CRPL-F47

IONOSPHERIC DATA

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PREPARED BY CENTRAL RADIO PROPAGATION LABORATORY
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CRPL-F47 CENTRAL RADIO PROPAGATION LABORATORY
NATIONAL BUREAU OF STANDARDS
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CONTENTS

TERMINOLOGY AND SCALING PRACTICES

The symbols and terminology used in this report are those adopted by the International Radio Propagation Conference, and given in detail on pages 24 to 26 of the report IRPL-C61, "Report of International Radio Propagation Conference," and in the section on "Terminology" in report IRPL-F5.

Beginning with IRPL-F14 the symbol L, defined as follows, is used in detailed tabulations of hourly values of ionosphere characteristics observed at Washington:

L or l = critical frequency, muf, or muf factor for F1 layer omitted because no definite and abrupt change in slope of the h'f curve occurs either for the first reflection or for any of the multiples.

In the past, ionospheric conditions were summarized on a monthly basis by using average or mean values for each hour of the day for each month. However, following the recommendations of the International Radio Propagation Conference, held in Washington April 17 to May 5, 1944, beginning with data for January 1, 1945, median values are published wherever possible.

Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The monthly median values used here are the values equaled or exceeded on half the days of the month at the given hour. The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given in the report referred to above, IRPL-C61.

a. For all ionospheric characteristics:
Values missing because of A, B, C, or F (see terminology referred to above) are omitted from the median count.

b. For critical frequencies and virtual heights:
Values of f^oF2 (and f^oE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F2 (and h'E near sunrise and sunset) missing for this reason are counted as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count. See CRPL-F38, page 9.
Values missing because of D are counted as equal to or greater than the upper limit of the recorder.
Values missing because of G are counted:
1. For f^oF2, as equal to or less than f^oF1.
2. For h'F2, as equal to or greater than the median.
Values missing for any other reason are omitted from the median count.

c. For muf factors (M-factors):
Values missing because of G are counted as equal to or less than the median.
Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):
Values of fEs missing because no Es reflections appeared, the equipment functioning normally otherwise, are counted as equal to or less than the median f^oE, or equal to or less than the lower frequency count of the recorder.
Values of fEs missing for any other reason, and values of hEs missing for any reason at all are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D. C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If only four values or less are available, the data are considered insufficient and no median value is computed.

2. For the F2 layer, if only five to nine values are available, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as there are at least five values, the median is not considered doubtful.

3. For all layers, if more than half of the values used to compute the median are doubtful (either doubtful or interpolated), the median is considered doubtful.

The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in IRPL-F18.

Beginning with CRPL-F33, an additional group of symbols is used in recording the Washington, D.C. data. The list of additional symbols and their meanings follows:

N - unable to make logical interpretation.
P - trace extrapolated to a critical frequency.
Q - the F1 layer not present as a distinct layer.
R - curve becomes incoherent near the F2 critical frequency.
S - no observation obtainable because of interference.
V - forked record (previously denoted by U. This change should also be made in CRPL-7-1).
Z - triple split near critical frequency.

For a more detailed explanation of the meaning and use of these symbols, see the report CRPL-7-1, "Preliminary Instructions for Obtaining and Reducing Manual Ionospheric Records."

MONTHLY AVERAGE AND MEDIAN VALUES OF WORLD-WIDE IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 55 and figures 1 to 109 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL predictions of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data:

Australian Council for Scientific and Industrial Research,
Radio Research Board:
Brisbane, Australia
Canberra, Australia
Hobart, Tasmania
Townsville, Australia

Australian Department of Supply and Shipping, Bureau of
Mineral Resources, Geophysical Section:
Watheroo, W. Australia

British Department of Scientific and Industrial Research,
Radio Research Board:
Falkland Is.
Fraserburgh, Scotland
Lindau/Harz, Germany
Slough, England

Canadian Radio Wave Propagation Committee:
Churchill, Canada
Clyde, Baffin I.
Ottawa, Canada
Portage la Prairie, Canada
Prince Rupert, Canada
St. John's, Newfoundland

New Zealand Radio Research Committee:
Campbell I.
Christchurch, New Zealand (Canterbury University College Observatory)
Fiji Is.
Rarotonga I.

South African Council for Scientific and Industrial Research:
Johannesburg, Union of S. Africa

Scientific Research Institute of Terrestrial Magnetism, Moscow, U.S.S.R.:
Alma Ata, U.S.S.R.
Bay Tiksey, U.S.S.R.
Bukhta Tikhaya, U.S.S.R.
Chita, U.S.S.R.
Leningrad, U.S.S.R.
Moscow, U.S.S.R.
Sverdlovsk, U.S.S.R.
Tomsk, U.S.S.R.

Japanese Physical Institute for Radio Waves (under supervision of Supreme Commander, Allied Powers):

Fukaura, Japan
Shibata, Japan
Tokyo (Kokobunji), Japan
Wakkanai, Japan
Yamakawa, Japan

United States Army Signal Corps:

Adak, Alaska
Okinawa I.

National Bureau of Standards (Central Radio Propagation Laboratory):

Baton Rouge, Louisiana (Louisiana State University)
Boston, Massachusetts (Harvard University)
Fairbanks, Alaska (University of Alaska, College, Alaska)
Guam I.
Huancayo, Peru (Instituto Geofisico de Huancayo)
Maui, Hawaii
Palmyra I.
San Francisco, California (Stanford University)
San Juan, Puerto Rico (University of Puerto Rico)
Trinidad, British West Indies
Washington, D. C.
White Sands, New Mexico
Wuchang, China (National Wuhan University)

All India Radio (Government of India), New Delhi, India:

Bombay, India
Delhi, India
Madras, India

Indian Council of Scientific and Industrial Research, Radio Research Committee:

Calcutta, India

Radio Wave Research Laboratory, Central Broadcasting Administration:

Chungking, China
Lanchow, China
Nanking, China
Peiping, China

French Ministry of Naval Armaments (Section for Scientific Research):

Fribourg, Germany

National Laboratory of Radio-Electricity (French Ionospheric Bureau):

Bagneux, France

Philippine Republic, Radio Control Division, Department of Commerce and Industry:

Leyte, Philippine Is.

Norwegian Defense Research Establishment, Florida, Bergen, Norway:

Tromso, Norway

Beginning with CRPL-F26 publication of tables of so-called "provisional data" reported to the CRPL by telephone or telegraph was discontinued. The reason for this change in policy is that users of the data hitherto published in this form receive them through established channels sooner than through the F series. Furthermore, having two sets of data, "provisional" and "final," for the same station for the same month leads to confusion.

It must be emphasized that no change has been made in the methods used for rapid reporting and exchange of data. The change has to do only with the printing of provisional data in the F series.

The tables and graphs of ionospheric data are correct for the values reported to the CRPL, but, because of variations in practice in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of these errors are due to:

a. Differences in scaling records when spread echoes are present.

b. Omission of values when f^oF2 is less than or equal to f^oF1, leading to erroneously high values of monthly averages or median values.

c. Omission of values when critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series report IRPL-F5.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. The following points are worthy of note:

a. Predictions for individual stations used to construct the charts may be more accurate than the values read from the charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. Thus, inasmuch as the predicted contours are for the center of each zone, part of the discrepancy between the predicted and observed values as given in the F series may be caused by the fact that the station is not centrally located within the zone.

b. The final presentation of the predictions is dependent upon the latest available ionospheric and radio propagation data, as well as upon predicted sunspot number.

The following predicted smoothed 12-month running-average Zürich sunspot numbers were used in constructing the contour charts:

Month	Predicted Sunspot No.			
	1948	1947	1946	1945
December		126	85	38
November		124	83	36
October		119	81	23
September		121	79	22
August		122	77	20
July		116	73	
June	129	112	67	
May	130	109	67	
April	133	107	62	
March	133	105	51	
February	133	90	46	
January	130	88	42	

IONOSPHERIC DATA FOR EVERY DAY AND HOUR AT WASHINGTON, D. C.

The data given in tables 56 to 67 follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given above under "Terminology and Scaling Practices."

IONOSPHERE DISTURBANCES

Table 68 presents ionosphere character figures for Washington, D. C., during June 1948, as determined by the criteria presented in the report IRPL-R5, "Criteria for Ionospheric Storminess," together with Cheltenham, Maryland, geomagnetic K-figures, which are usually covariant with them.

Table 69 lists for the stations whose locations are given the sudden ionosphere disturbances observed on the continuous field intensity recordings made at the Sterling Radio Propagation Laboratory during June 1948.

Table 70 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Brentwood and Somerton, England, receiving stations of Cable and Wireless, Ltd., from May 21 to June 21, 1948.

Table 71 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Point Reyes, California, receiving station of RCA Communications, Inc., for June 20, 1948.

Table 72 gives provisional radio propagation quality figures for the North Atlantic and North Pacific areas, for 01 to 12 and 13 to 24 GCT, May 1948, compared with the CRPL daily radio disturbances warnings, which are primarily for the North Atlantic paths, the CRPL weekly radio propagation forecasts of probable disturbed periods, and the half-day Cheltenham, Maryland, geomagnetic K-figures.

The radio propagation quality figures are prepared from radio traffic and ionospheric data reported to the CRPL, in a manner basically the same as that described in IRPL-R31, "North Atlantic Radio Propagation Disturbances, October 1943 through October 1945," issued February 1, 1946. The scale conversions for each report are revised for use with the data beginning January 1948, and statistical weighting replaces what was, in effect, subjective weighting. Separate master distribution curves of the type described in IRPL-R31 were derived for the part of 1946 covered by each report; data received only since 1946 are compared with the master curve for the period of the available data. A report whose distribution is the same as the master is thereby converted linearly to the Q-figure scale. Each report is given a statistical weight which is the reciprocal of the departure from linearity. The half-daily radio propagation quality figure, beginning January 1948, is the weighted mean of the reports received for that period.

These radio propagation quality figures give a consensus of opinion of actual radio propagation conditions as reported by the half day over the two general areas. It should be borne in mind, however, that though the quality may be disturbed according to the CRPL scale, the cause of the disturbance is not necessarily known. There are many variables that must be considered. In addition to ionospheric storminess itself as the cause, conditions may be reported as disturbed because of seasonal characteristics, such as are particularly evident in the pronounced day and night contrast over North Pacific paths during the winter months, or because of improper frequency usage for the path and time of day in question. Insofar as possible, frequency usage is included in rating the reports. Where the actual frequency is not shown in the report to the CRPL, it has been assumed that the report is made on the use of optimum working frequencies for the path and time of day in question. Since there is a possibility that all the disturbance shown by the quality figures is not due to ionospheric storminess alone, care should be taken in using the quality figures in research correlations with solar, auroral, geomagnetic, or other data. Nevertheless, these quality figures do reflect a consensus of opinion of actual radio propagation conditions as found on any one half day in either of the two general areas.

AMERICAN AND ZÜRICH PROVISIONAL RELATIVE SUNSPOT NUMBERS

Table 73 presents the daily American relative sunspot number, R_A, computed from observations communicated to CRPL by observers in America and abroad. Beginning with the observations for January 1948, a new method

of reduction of observations is employed such that each observer is assigned a scale-determining "observatory coefficient," ultimately referred to Zürich observations in a standard period, December 1944 to September 1945, and a statistical weight, the reciprocal of the variance of the observatory coefficient. The daily numbers listed in the table are the weighted means of <u>all</u> observations received for each day. Details of the procedure will be published shortly. The American relative sunspot number computed in this way is designated R_A. It is noted that a number of observatories abroad, including the Zürich observatory, are included in R_A. The scale of R_A was referred specifically to that of the Zürich relative sunspot numbers in the standard comparison period; since that time, R_A is influenced by the Zürich observations only in that Zürich proves to be a consistent observer and receives a high statistical weight. In addition, this table lists the daily provisional Zürich sunspot numbers, R_Z.

SOLAR CORONAL INTENSITIES OBSERVED AT CLIMAX, COLORADO

In tables 74a and 74b are listed the intensities of the green (5303A) line of the emission spectrum of the solar corona as observed during June 1948 by the High Altitude Observatory of Harvard University and the University of Colorado at Climax, Colorado, for east and west limbs, respectively, at 5° intervals of position angle north and south of the solar equator at the limb computed to the nearest 5°. A correction, P, as listed, has been applied to the position angles of the actual observations which were on astronomical coordinates. The time of observation is given to the nearest tenth of a day, GCT. The tables of coronal observations in CRPL-F29 to F41 listed the data on <u>astronomical</u> coordinates; the present format on solar <u>rotation</u> coordinates is in conformity with the tables of CRPL-1-4, "Observations of the Solar Corona at Climax, 1944-46."

Tables 75a and 75b give similarly the intensities of the first red (6374A) coronal line; tables 76a and 76b list the intensities of the second red (6704A) coronal line. The following symbols are used in tables 74, 75, and 76: a, observation of low weight; -, corona not visible; and x, position-angle not included in plate estimates.

Table 77 gives details of the Climax observations from January 1948 through June 1948. The first column lists the Greenwich date of observation; the next six columns give the threshold or lowest observable intensity of 5303A for each spectrum plate centered at astronomical position angles 45°, 90°, 135°, 225°, 270°, and 315° respectively; the last two columns indicate the observer and the person responsible for the intensity estimates of the observation. This table is a continuation of table 1 of CRPL-1-4 and appears at intervals of six months.

ERRATUM

1. CRPL-F46, p. 10, table 3: The f^oF2 column should read as follows at the hours indicated: 01, 5.4; 03, 4.3; 04, 4.9; 05, 5.1; 07, 5.9; 09, 6.6; 19, 7.2; 20, 6.7; 22, 5.5.

Table 1

Washington, D.C. (39.0°N, 77.5°W) June 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	275	6.8					2.4	2.7
01	270	6.4					2.4	2.7
02	280	6.2					2.8	2.7
03	270	5.7					2.6	2.7
04	270	5.4					2.4	2.7
05	270	5.4			110	1.9	2.4	2.9
06	240	6.0	240	4.1	100	2.5	3.7	2.8
07	330	6.4	220	4.7	100	3.1	4.2	2.9
08	380	6.7	200	5.0	100	3.4	4.4	2.8
09	380	7.0	200	5.2	100	3.7	4.6	2.7
10	430	7.2	200	5.4	100	3.9	4.3	2.6
11	430	7.4	200	5.5	100	3.9	4.4	2.6
12	440	7.6	200	5.5	100	4.0	4.2	2.6
13	435	7.6	200	5.5	100	3.9	4.2	2.6
14	430	7.4	200	5.5	100	3.9	4.2	2.6
15	410	7.5	200	5.3	100	3.8	4.6	2.6
16	400	7.8	210	5.3	100	3.7	4.2	2.6
17	350	7.8	225	5.0	100	3.3	3.9	2.7
18	300	7.8	230		100	2.8	4.1	2.8
19	260	7.7			110	2.1	3.8	2.8
20	250	7.8					3.2	2.8
21	260	7.8					3.1	2.7
22	270	7.6					3.0	2.7
23	280	7.2					2.5	2.7

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 2

Fairbanks, Alaska (64.9°N, 147.8°W) May 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	350	5.1					5.0	2.5
01	360	5.2					5.3	2.5
02	(360)	5.4					5.5	2.5
03	375	5.5					5.5	2.4
04	410	5.5	285	4.0		2.4	4.8	2.4
05	452	6.0	290	4.1		2.7	4.4	2.4
06	500	6.1	260	4.4		3.0	3.8	2.3
07	520	6.0	250	4.5		3.2	3.2	2.3
08	520	6.2	245	4.7		3.4		2.3
09	570	6.8	240	4.8		3.6		2.3
10	578	6.0	230	4.9		3.6		2.3
11	590	6.0	235	5.1		3.6		2.4
12	660	6.0	230	5.1		3.6		2.3
13	570	6.1	230	5.1		3.5		2.3
14	548	6.3	240	5.0		3.5		2.3
15	498	6.5	240	4.9		3.4		2.3
16	472	6.4	242	4.8		3.3		2.4
17	450	6.5	255	4.6		3.0		2.4
18	360	6.3	275	4.3		2.8	3.0	2.5
19	295	6.0				2.5	3.0	2.7
20	296	5.7				2.2	3.9	2.7
21	290	5.5				2.0	3.7	2.7
22	310	6.3				1.9	4.2	2.7
23	340	5.3				1.5	4.4	2.5

Time: 160.0°W.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes, automatic operation.

Table 3

Churchill, Canada (58.8°N, 94.2°W) May 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	330	5.1					5.2	2.5
01	325	5.0					5.0	2.4
02	310	4.9					3.9	2.6
03	306	4.8				E	3.4	2.5
04	340	5.0	260	3.4		2.4	3.4	2.6
06	340	5.6	260	3.6	110	2.6	3.3	(2.6)
06	440	6.2	240	4.4	100	3.0	3.3	(2.5)
07	430	5.8	230	4.7	100	3.4	3.4	(2.4)
08	480	6.1	240	6.0	100	3.4		2.4
09	510	6.0	230	5.2	100	3.6		2.4
10	495	6.3	240	6.3	100	3.7		2.4
11	510	6.5	250	5.4	100	3.8		2.4
12	520	6.5	240	6.4	100	3.6		2.4
13	496	6.7	240	5.4	100	3.6		2.4
14	470	7.3	240	5.3	100	3.6		2.4
16	450	7.2	240	5.2	100	3.6		2.4
16	480	6.9	240	5.1	100	3.4		2.5
17	440	6.8	250	5.0	100	3.4		2.5
18	370	6.8	240	4.8	110	3.1		2.6
19	340	6.2	260		120	2.8	3.6	2.7
20	330	6.2			125	2.7	4.0	2.6
21	330	6.1					6.0	2.6
22	310	5.8					7.4	2.6
23	320	6.2					6.8	2.6

Time: 90.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute.

Table 4

Prince Rupert, Canada (54.3°N, 130.3°W) May 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	4.6					3.0	2.6
01	330	4.0					2.8	2.5
02	360	3.8						2.5
03	350	3.9					3.1	2.5
04	360	4.2				E	3.6	2.5
05	390	4.8	300	3.4		(1.9)	3.6	2.4
06	500	5.3	280	3.9	120	2.5	4.0	2.4
07	510	5.7	260	4.3	110	2.9	4.0	2.4
08	505	6.0	240	4.7	110	3.2	4.0	2.4
09	550	6.0	230	4.9	110	3.4	4.0	2.3
10	535	6.4	220	5.0	110	3.6	4.1	2.4
11	560	6.3	220	5.2	110	3.7	4.1	2.3
12	545	6.5	220	5.2	110	3.8	4.1	2.3
13	520	6.6	230	5.3	110	3.8	4.0	2.3
14	550	6.7	230	5.3	110	3.8	4.0	2.4
15	610	6.9	226	5.3	110	3.7	4.0	2.4
16	505	6.9	230	5.3	110	3.5		2.4
17	440	6.9	240	5.0	110	3.3		2.4
18	380	6.9	250	4.7	115	3.0		2.5
19	330	6.9	260	4.2	120	2.7		2.6
20	280	7.0			130	2.1	3.1	2.7
21	270	6.3				1.7	2.9	2.7
22	280	5.8					3.5	2.6
23	290	5.3					3.8	2.6

Time: 120.0°W.
Sweep: 1.6 Mc to 13.5 Mc, manual operation.

Table 5

Adak, Alaska (51.9°N, 176.6°W) May 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	6.2						2.6
01	310	5.9						2.5
02	320	5.6						2.5
03	340	5.2						2.5
04	340	5.4	330	3.0	130	1.8		2.5
05	410	6.2	265	3.9	120	2.4	3.0	2.5
06	420	6.9	250	4.4	120	3.0	3.6	2.5
07	420	7.0	240	4.9	110	3.4	3.8	2.5
08	455	6.9	230	5.1	110	3.6	4.8	2.5
09	430	6.8	230	5.4	110	(3.9)	5.2	2.5
10	445	7.0	225	5.5	110	(4.0)	5.0	2.6
11	430	7.2	215	5.6	110	(4.2)	5.2	2.6
12	450	7.3	240	5.8	110	4.2	5.8	2.5
13	430	7.5	225	5.7	120		5.0	2.6
14	420	7.6	230	5.8	110	(4.0)	4.3	2.8
15	400	7.6	230	5.5	120	3.9	3.8	2.7
16	370	7.4	240	5.2	110	3.6	4.0	2.7
17	350	7.4	240	4.9	120	3.2	4.0	2.8
18	310	7.1	260	4.4	120	2.8	4.0	2.8
19	280	7.2	270		130	2.4	3.6	2.9
20	280	6.9			120		3.4	2.8
21	290	6.9					3.7	2.7
22	290	6.7					2.6	2.6
23	300	6.6					2.4	2.6

Time: 180.0°W.
Sweep: 1.2 Mc to 15.5 Mc in 12 minutes, manual operation.

Table 6

Portage la Prairie, Canada (49.9°N, 98.3°W) May 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	350	5.0					2.7	(2.4)
01	325	4.9					3.1	(2.4)
02	350	4.6					3.7	(2.4)
03	340	4.5					2.8	(2.4)
04	340	4.4				E	3.3	(2.5)
05	310	4.8			120	1.9	3.0	(2.6)
06	310	5.2	260	(4.0)	110	2.4		2.8
07	420	5.8	240	4.5	110	2.8		2.6
08	460	6.1	230	4.7	110	3.1		2.4
09	535	6.0	225	5.0	100	3.4		2.3
10	450	6.4	220	5.1	100	3.6		2.4
11	460	7.2	220	5.2	100	3.8		2.4
12	490	6.8	220	5.3	100	3.8		2.4
13	480	7.2	230	5.4	100	3.8		2.4
14	490	7.2	240	5.4	100	3.8		2.4
15	480	7.0	230	5.2	100	3.6		2.4
16	470	7.2	230	5.1	110	3.4		2.4
17	420	7.1	240	5.0	110	3.2		2.5
18	260	7.0	250	(4.6)	110	2.8		2.5
19	280	7.2			120	2.4		2.5
20	290	7.2			145	1.8		(2.6)
21	295	6.8				E	1.9	(2.5)
22	300	6.4					2.8	(2.5)
23	300	5.6					2.6	(2.4)

Time: 90.0°W.
Sweep: 1.0 Mc to 16.0 Mc in 2 minutes 30 seconds.

Table 7

St. John's, Newfoundland (47.6°N, 52.7°W) May 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	5.3						2.8
01	310	4.4					2.2	3.0
02	310	4.0					1.4	3.0
03	300	4.0						3.0
04	290	4.2						3.0
05	270	5.1	260	3.6	120	2.2		2.9
06	290	5.6	250	4.4	110	2.7	2.8	2.9
07	320	5.8	230	4.8	110	3.1	3.1	2.9
08	360	6.3	220	5.1	110	3.3	3.5	2.9
09	380	6.4	220	5.4			4.0	2.8
10	450	6.2	210	5.6			4.0	2.8
11	475	6.4	210	5.8			3.9	2.6
12	460	6.8	210	5.7			4.0	2.6
13	450	7.0	210	5.8			4.1	2.6
14	445	7.2	220	5.8			3.9	2.6
15	440	7.4	210	5.6			3.7	2.6
16	410	7.6	220	5.4	110	3.5	3.3	2.7
17	350	7.8	230	5.0	110	3.3		2.7
18	300	7.6	240	4.4	110	2.9		2.7
19	270	7.5	260	3.6	120	2.2		2.8
20	270	7.6						2.8
21	280	7.4						2.8
22	280	6.8						2.7
23	300	5.8						2.8

Time: 52.5°W.
Sweep: 1.2 Mc to 20.0 Mc, manual operation.

Table 8

Ottawa, Canada (45.5°N, 75.8°W) May 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	340	5.1						2.7
01	360	4.7						2.7
02	360	4.5						2.7
03	370	4.3						2.7
04	340	4.6						2.7
05	330	5.2						2.7
06	300	5.9	290	4.3	130	2.8		2.7
07	380	6.4	265	4.9	130	3.2		2.7
08	450	6.6	255	5.2	125	3.5		2.5
09	560	6.4	240	5.4	130	3.7	4.9	2.3
10	570	6.6	240	5.5	120	3.9	5.0	2.3
11	585	6.6	240	5.7	120	3.9	5.2	2.3
12	550	7.3	240	5.8	120	3.9	4.9	2.3
13	580	7.0	240	5.7	125	3.8		2.3
14	545	7.6	260	5.6	130	3.8		2.4
15	510	7.8	260	5.5	140	3.7		2.4
16	470	7.9	260	5.4	130	3.6		2.5
17	420	7.7	260	5.0	130	3.1		2.5
18	360	7.8	290	4.4	130	2.7		2.5
19	320	7.8						2.5
20	310	7.6						2.5
21	320	7.2						2.5
22	340	6.4						2.6
23	340	5.7						2.6

Time: 75.0°W.
Sweep: 1.7 Mc to 18.0 Mc, manual operation.

Table 9

Boston, Massachusetts (42.4°N, 71.2°W) May 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	6.6						2.5
01	290	6.0						2.5
02	282	5.7					1.2	2.5
03	295	5.0					1.4	2.5
04	312	4.9					1.6	2.6
05	318	5.5			115	2.0		2.8
06	350	6.5	275	4.8				2.7
07	400	6.7	250	5.0				2.6
08	420	6.8	235	5.0				2.6
09	455	6.8	220	5.0				2.6
10	450	7.0	220	5.0				2.5
11	440	6.9		4.9				2.6
12	460	7.3	210					2.5
13	470	7.7	255	5.0				2.5
14	450	7.5	245	5.4				2.6
15	400	7.9	225	5.1				2.7
16	382	7.5	242	5.0				2.7
17	310	8.2	250	5.0				2.7
18	280	8.2		5.0	110	2.2		2.6
19	275	8.2						2.7
20	275	8.0						2.8
21	285	7.7						2.6
22	285	7.2						2.6
23	290	6.9						2.5

Time: 75.0°W.
Sweep: 0.8 Mc to 14.0 Mc in 1 minute.

Table 10

San Francisco, California (37.4°N, 122.2°W) May 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	320	6.2						2.4
01	320	6.0						2.4
02	320	5.6						2.4
03	320	5.4						2.4
04	320	5.2						2.4
05	300	5.4						2.5
06	260	6.3			120	2.4		2.6
07	340	7.4	240	4.8	120	3.0		2.5
08	400	7.6	230	5.0	120	3.3	4.2	2.4
09	440	7.9	240	5.4	120	3.6	4.4	2.4
10	420	8.4	220	5.6	110	3.8	4.4	2.4
11	420	9.1	220	5.8	110	4.0		2.4
12	420	9.6	220	6.0	110	4.0		2.4
13	410	9.8	220	6.0	115	3.9		2.4
14	400	9.6	220	5.8	120	3.9		2.4
15	410	9.4	240	5.7	120	3.8		2.5
16	380	9.0	240	5.3	120	3.5	4.0	2.5
17	310	8.6	240	4.8	120	3.1	4.0	2.6
18	260	8.4			120	2.5	3.8	2.6
19	270	8.2					3.0	2.7
20	260	7.6					2.8	2.6
21	280	7.4					2.5	2.5
22	300	6.6					2.4	2.5
23	320	6.4						2.4

Time: 120.0°W.
Sweep: 1.3 Mc to 18.5 Mc in 4 minutes 30 seconds.

Table 11

White Sands, New Mexico (32.3°N, 106.5°W) May 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	310	6.8						2.5
01	305	6.8					1.1	2.5
02	300	6.7					1.1	2.5
03	300	6.3					0.9	2.5
04	300	6.0					1.1	2.4
05	320	6.0					2.5	2.5
06	265	7.0	250	4.2	120	2.5	3.5	2.7
07	245	8.2	250	4.5	120	3.1	4.8	2.6
08	300	9.2	230	5.0	120	3.4	5.1	2.5
09	410	9.5	220	5.8	120	3.7	5.2	2.5
10	415	9.8	220	5.9	120	3.9	5.2	2.4
11	420	10.2	220	6.2	120	4.0	4.6	2.4
12	420	10.0	220	6.2	120	4.1	4.6	2.4
13	420	10.1	220	6.0	120	4.1		2.5
14	420	10.2	230	6.0	120	4.0	4.5	2.5
15	400	10.0	230	5.7	120	3.8	4.6	2.5
16	390	9.8	240	5.6	120	3.5	4.7	2.5
17	330	9.1	250	5.0	120	3.2	4.3	2.5
18	260	9.2			120	2.5	3.3	2.6
19	280	8.8					2.8	2.7
20	275	8.0					2.6	2.6
21	280	7.3						2.5
22	300	7.1						2.5
23	310	7.0					2.3	2.5

Time: 105.0°W.
Sweep: 0.79 Mc to 14.0 Mc in 2 minutes.

Table 12

Baton Rouge, Louisiana (30.5°N, 91.2°W) May 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	7.1						2.7
01	300	7.0						2.7
02	300	6.8						2.7
03	300	6.5						2.7
04	300	6.2						2.7
05	300	8.3						2.8
06	290	7.2			130	2.2		2.9
07	295	8.4	240	(5.0)	120	3.1		2.9
08	300	8.9	230	5.3	120	3.5		2.8
09	320	10.2	240	5.6	120	3.7		2.6
10	390	10.3	(240)	6.0	120	(3.7)		2.7
11	400	10.4	(240)	(6.0)	(120)	(3.7)		2.6
12	400	(10.7)	(240)	(6.0)	120	(3.7)		(2.7)
13	400	(10.8)	(240)	6.0	120	(3.7)		2.7
14	(400)	10.3	235	5.9	120	(3.7)		2.7
15	410	10.1	240	5.7	120	3.7		2.6
16	390	9.5	240	5.4	120	3.6		2.7
17	340	9.0	240	(5.2)	120	3.2		2.7
18	300	8.7			120	2.5		2.8
19	285	8.6						2.8
20	290	8.2						2.8
21	290	7.8						2.7
22	300	7.2						2.7
23	310	7.2						2.6

Time: 90.0°W.
Sweep: 2.15 Mc to 18.5 Mc in 5 minutes, automatic operation.

Table 13

Maui, Hawaii (20.8°N, 156.5°W) May 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	250	9.8						3.0
01	240	9.2						3.0
02	230	9.0						3.0
03	240	8.2						2.9
04	250	7.3						2.9
05	260	7.0						2.8
06	230	6.7						2.8
07	220	8.1			110	2.7		3.0
08	220	9.3	200		100	3.2	4.0	2.8
09	290	10.3	300	5.9	105	3.6	4.6	2.6
10	310	11.4	200	6.0	110	3.9	4.5	2.6
11	320	12.1	200	6.0	110	4.2	4.6	2.6
12	340	12.6	200	6.2	100	4.2		2.8
13	340	13.0	200	6.3	100	4.2	5.3	2.8
14	330	13.5	300	6.4	100	4.1	4.8	2.8
15	320	13.7	200	5.9	110	4.0	4.4	2.8
16	305	13.7	200	5.8	100	3.6		2.9
17	285	13.4	215		100	3.2	4.4	2.9
18	240	12.9			105	2.6	3.7	2.9
19	240	13.1					3.3	2.9
20	250	11.9					3.1	2.8
21	260	11.2						2.8
22	260	10.0						2.8
23	270	9.8						2.9

Time: 150.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; above 16.0 Mc, manual operation.

Table 14

San Juan, Puerto Rico (18.4°N, 66.1°W) May 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		9.7						2.8
01		(9.2)						2.8
02		8.3						2.8
03		7.8						2.7
04		7.6						2.7
05		6.8						2.7
06		7.4						2.7
07	240	8.9						2.8
08	270	10.0		5.0		3.3		2.7
09	300	11.0		5.5		3.8		2.6
10	350	11.9		6.0		4.0		2.6
11	360	12.5		6.0				2.5
12	365	12.5		6.0				2.5
13	370	(12.3)		6.0		4.1		(2.5)
14	380	12.2		6.0		4.0		2.5
15	365	11.9		5.9		4.0	5.5	2.5
16	350	11.5		5.9		3.7	5.0	2.6
17	340	11.1				3.2	4.2	2.6
18	300	10.4					4.2	2.6
19	300	10.1						2.6
20		(9.6)						2.6
21		(9.9)						(2.6)
22		10.0						2.6
23		10.0						2.6

Time: 60.0°W.
Sweep: 2.8 Mc to 13.0 Mc in 9 minutes, supplemented by manual operation.

Table 15

Guam I. (13.6°N, 144.9°E) May 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	310	10.8					3.2	2.6
01	280	10.8					3.2	2.7
02	260	10.5					2.8	2.8
03	240	10.8					2.5	3.0
04	230	9.2					2.5	3.1
05	220	7.6					2.8	3.1
06	250	8.0					3.8	3.0
07	240	9.8					5.0	3.0
08	240	11.0					5.0	2.8
09	230	11.5					6.8	2.5
10	230	12.4					5.3	2.4
11	220	13.0					5.9	2.3
12	220	13.5					5.5	2.3
13	220	14.2					5.6	2.2
14	220	14.2					5.3	2.2
15	220	14.2					6.5	2.2
16	230	14.3					5.1	2.2
17	240	14.3					5.0	2.2
18	270	13.8					5.2	2.2
19	340	11.7					4.8	2.1
20	400	11.3					2.4	2.1
21	400	11.0					1.9	2.2
22	370	(10.7)					2.4	(2.2)
23	350	11.2					2.5	2.4

Time: 150.0E.
Sweep: 1.25 Mc to 19.0 Mc in 12 minutes, manual operation.

Table 16

Trinidad, Brit. West Indies (10.6°N, 61.2°W) May 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	260	11.4						2.9
01	255	10.0						2.8
02	250	9.2						2.9
03	250	8.8						2.8
04	255	8.0						2.8
05	270	7.4						2.7
06	270	8.0			120	1.9	2.4	2.8
07	240	9.5			120	2.8	3.4	2.9
08	240	10.7			120	3.4	4.0	2.8
09	250	11.4	220	5.2	120	3.8	4.4	2.7
10	280	12.1	220	5.4	120	4.0	4.6	2.6
11	305	12.6	220	5.8	120	4.2	4.8	2.5
12	320	13.1	230	5.9	120	4.2	5.0	2.6
13	320	13.2	220	(5.8)	120	4.2	5.4	2.6
14	320	13.2	220	(5.7)	120	4.1	5.3	2.6
15	300	12.5	240	(5.5)	120	3.9	5.4	2.5
16	320	12.0	230	5.1	110	3.5	5.0	2.5
17	290	11.7	240	(4.7)	120	3.1	4.5	2.5
18	280	11.4					3.7	2.5
19	300	11.2					3.0	2.5
20	320	11.5					3.0	2.5
21	320	11.8					2.4	2.6
22	300	11.6						2.6
23	280	11.3						2.7

Time: 60.0°W.
Sweep: 1.2 Mc to 18.0 Mc, manual operation.

Table 17

Palmyra I. (5.9°N, 162.1°W) May 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	14.2					1.8	2.8
01	250	13.0						(2.9)
02	250	(11.2)						(2.9)
03	260	(9.6)						(2.9)
04	250	(9.0)					1.8	(3.0)
05	240	7.4					1.8	2.9
06	290	7.2			130	1.6	2.2	2.9
07	250	9.1			120	2.7	3.8	2.8
08	240	10.6			110	3.4	4.2	2.6
09	240	11.2	230		115	3.9		2.4
10	270	11.8	220		110	4.0		2.3
11	280	12.0	220		110	(4.2)		2.2
12	280	12.3	210		110	4.4		2.2
13	285	12.6	220		120	4.4		2.2
14	280	12.5	220		110	4.1		2.2
15	280	12.7	220		110	3.8		2.2
16	240	12.6	220		110	3.5		2.2
17	250	12.5			115	3.0		2.1
18	290	12.1			130	2.3	3.8	2.2
19	375	11.5					2.4	2.1
20	400	11.3					2.0	(2.0)
21	380	12.3					2.1	(2.2)
22	330	13.0					1.8	2.4
23	290	14.0					2.4	2.6

Time: 157.5°W.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 36 seconds, automatic operation; 13.0 Mc to 18.0 Mc, manual operation.

Table 18

Okinawa I. (26.3°N, 127.7°E) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		15.0					2.4	3.0
01		14.0					2.4	3.1
02		13.1					2.4	3.1
03		10.4					2.4	3.1
04		8.5					2.4	2.9
05		7.5					2.4	2.9
06		8.0					2.4	2.8
07		10.0				(2.7)	3.2	3.1
08		11.0				(2.8)	4.4	2.9
09		12.0				(3.2)	4.5	2.8
10		12.8		(5.8)			4.4	2.8
11		13.7		(6.9)		(3.7)	5.0	2.7
12		14.8		(6.7)			5.2	2.7
13		15.3		(6.9)			5.1	2.7
14		15.9		(6.5)			5.4	2.7
15		18.2		(6.8)			5.4	2.6
16		16.5		(8.4)			5.0	2.7
17		16.0		(5.4)			5.1	2.8
18		16.1					5.0	2.8
19		15.7					4.2	2.8
20		15.6					4.0	2.7
21		15.6					4.0	2.7
22		(15.1)					2.4	(2.8)
23		(15.2)					2.6	(2.9)

Time: 135.0°E.
Sweep: 1.8 Mc to 18.0 Mc in 15 minutes, manual operation.

Table 19

Leyte, Philippine Is. (11.0°N, 125.0°E) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		10.9						3.1
01		9.1						3.0
02		7.9						3.0
03		7.3					1.8	3.0
04		6.1					2.6	3.0
05		5.3					2.9	3.0
06		8.7				2.8	3.6	2.9
07		11.2				3.3	4.4	2.9
08		12.6				3.9	4.8	2.6
09		13.0				4.3	5.0	2.3
10		12.7				4.8	5.0	2.2
11		12.0				4.7	5.3	2.2
12		11.7				4.7	5.4	2.1
13		11.8				4.6	5.2	2.1
14		12.0				4.5	5.0	2.1
15		12.3				4.0	4.4	2.1
16		12.2				3.6	4.4	2.2
17		11.8				2.8	3.5	2.2
18		11.2					3.0	2.1
19		10.0					1.9	1.9
20		(10.7)						2.2
21		(10.6)					1.8	
22		(10.8)					1.9	2.6
23		10.9					3.0	2.7

Time: 120.0°E.
Sweep: 1.8 Mc to 18.0 Mc, manual operation.

Table 20

Huancayo, Peru (12.0°S, 75.3°W) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	230	9.3						2.8
01	230	8.6						2.9
02	240	7.8						2.9
03	240	6.8						3.0
04	240	6.0						3.0
05	240	5.0						3.0
06	280	6.3				1.8	2.0	2.8
07	260	10.2				2.7		3.0
08	240	12.3				3.5	7.2	2.7
09	240	13.4	230	5.5		3.9	11.7	2.4
10	260	13.2	220	5.5		4.1	12.1	2.3
11	270	12.7	220	5.5		4.3	12.1	2.2
12	270	12.2	220	5.5		4.3	12.2	2.1
13	280	11.9	220	5.5		4.2	12.0	2.1
14	280	12.2	220	5.5		4.1	11.9	2.1
15	250	12.5	230	5.5		3.9	11.9	2.1
16	260	12.6				3.3	10.6	2.2
17	280	12.4				2.6	6.2	2.1
18	340	11.8				1.5		2.0
19	430	10.0				0.8		1.9
20	400	9.4						2.0
21	320	9.5						2.3
22	250	9.2						2.5
23	240	9.4						2.6

Time: 75.0°W.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes, automatic operation.

Table 21

Johannesburg, Union of S. Africa (26.2°S, 28.0°E) April 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	250	5.0						2.9
01	250	4.6					1.4	2.8
02	270	4.4						2.8
03	250	4.0						2.9
04	240	3.6						2.8
05	260	3.8						2.8
06	260	4.6						2.8
07	230	8.8			110	2.4		3.3
08	230	11.1			110	3.0		3.2
09	250	12.3	220		100	3.4		3.0
10	250	13.0	220		100	3.7		2.9
11	270	13.1	210		100	3.9		2.8
12	300	13.1	210		100	4.0		2.8
13	320	13.0	220		100	4.0	4.2	2.7
14	320	13.1	225		100	3.9	4.1	2.7
15	300	13.1	230		110	3.6	4.2	2.7
16	290	13.0	240		110	3.2	4.0	2.7
17	240	12.8			110	2.5	3.4	2.8
18	230	12.2			100	1.7	2.2	2.9
19	220	10.8					1.6	2.9
20	240	9.5					1.6	2.9
21	230	8.9						3.1
22	230	7.1						3.0
23	240	6.0					1.4	3.0

Time: 30.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 22*

Fraserburgh, Scotland (57.6°N, 2.1°W) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	330	(5.3)						2.3
01	330	(5.0)						2.4
02	330	(4.4)						2.3
03	330	(4.4)						2.5
04	330	(4.0)						2.6
05	320	(3.8)						2.6
06	280	(4.8)						2.9
07	270	6.3				(2.5)		3.0
08	240	7.1			120	2.7		3.0
09	220	8.0			120	3.0		3.0
10	220	8.6			115	3.3		2.8
11	220	9.4			115	3.3		2.8
12	220	9.8			120	3.3		2.9
13	220	9.6			120	3.4		2.9
14	225	(9.9)			125	3.3		2.9
15	230	9.8			125	3.1		2.9
16	240	9.8			125	2.8		2.9
17	245	9.7			125	2.5		2.9
18	245	(9.4)						2.9
19	240	9.2						3.0
20	245	7.9						2.8
21	250	(6.8)						2.6
22	300	(6.2)						2.4
23	320	(5.6)						2.4

Time: Local.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute.
*Average values except for f°F2, which are median values; data taken March 20 through 31 only.

Table 23*

Slough, England (51.5°N, 0.6°W) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	293	5.3					1.0	2.6
01	294	5.0						2.6
02	294	4.7						2.5
03	291	4.5						2.6
04	276	4.0						2.6
05	256	3.5						2.6
06	263	4.5			146	1.6		2.9
07	252	6.5	270#	3.5#	126	2.0		3.1
08	246	8.0	228	3.8	117	2.6		3.1
09	243	8.9	222	4.4	116	3.0		3.0
10	257	9.9	219	4.5	115	3.2		3.0
11	260	10.2	218	4.8	113	3.4		2.9
12	275	10.7	217	4.7	114	3.5		2.9
13	269	10.8	225	4.7	112	3.4		3.0
14	261	10.5	228	4.6	113	3.3		2.9
15	256	10.4	229	4.4	114	3.1		3.0
16	242	10.2	245#	4.1#	117	2.8		2.9
17	243	9.9	280#	3.7#	122	2.3		3.0
18	234	9.5			•129	1.8	1.8	3.0
19	230	8.6						2.9
20	235	7.7						2.8
21	247	6.4						2.7
22	275	6.0						2.7
23	283	5.7						2.5

Time: Local.
Sweep: 0.5 Mc to 16.5 Mc in 5 minutes.
*Average values except for f°F2 and fEs, which are median values.
#One or two values only.

Table 24

Peiping, China (39.9°N, 116.4°E) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		6.4						
01		(5.7)						
02		6.2						
03		6.2						
04		5.7						
05		6.2						
06		6.2						
07		8.2						
08		10.5						
09		11.4						
10		12.0						
11		12.2						
12		12.3						
13		12.2						
14		12.3						
15		12.0						
16		12.0						
17		11.9						
18		11.3						
19		10.8						
20		9.6						
21		9.1						
22		7;9						
23		7.1						

Time: 120.0°E.
Sweep: 2.9 Mc to 14.5 Mc in 15 minutes, manual operation.

Table 25

Chungking, China (29.4°N, 106.8°E) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	280	8.2						2.6
01	290	8.0						2.6
02	290	7.9						2.7
03	280	6.9						2.7
04	260	5.4						2.7
05	300	4.8						2.6
06	300	5.8					2.7	2.7
07	260	8.6			120	2.5	3.7	3.0
08	260	10.8	240		100	3.0	4.2	3.0
09	270	12.2	240		100	3.3	4.5	2.8
10	280	12.8	220		100	3.7	4.4	2.7
11	300	13.7	220	5.4	110	3.7	4.3	2.7
12	300	15.0	220	5.9	110	3.7	4.4	2.7
13	310	15.7	230	6.7	120	3.8	4.0	2.7
14	310	16.1	230	5.8	110	3.7	4.0	2.7
15	285	15.3	240		105	3.5	4.0	2.8
16	280	15.3	230		100	3.2	3.8	2.8
17	275	14.4	240		100	2.8	3.7	2.8
18	260	14.0					3.3	2.8
19	260	14.2					2.6	2.7
20	250	13.0						2.7
21	260	11.4						2.7
22	250	9.8						2.7
23	275	9.0						2.7

Time: 105.0 E.
Sweep: 1.7 Mc to 20.0 Mc in 15 minutes, manual operation.

Table 26

Brisbane, Australia (27.5°S, 153.0°E) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	275	8.0					2.1	2.8
01	250	7.8					2.4	2.8
02	250	7.2					2.2	2.9
03	240	6.5					2.1	2.8
04	260	6.0					2.2	2.8
05	255	6.0						2.8
06	240	7.0				1.8		3.1
07	230	9.0			110	2.6		3.3
08	250	10.0	220		110	3.2	3.5	3.2
09	250	11.0	212	5.0	110	3.6	4.2	3.1
10	260	11.2	210	5.1	110	3.8	4.0	3.0
11	270	11.8	200	5.4	110	3.9	4.0	2.9
12	280	12.0	205	5.6	110	4.0		2.9
13	290	12.0	210	5.6	110	3.9		2.9
14	290	11.8	220	5.3	110	3.8		2.9
15	285	11.7	230		110	3.5		2.9
16	250	11.3	240		110	3.2		2.9
17	240	11.0			110	2.7	2.6	3.0
18	240	10.0				1.8	1.8	3.0
19	235	9.0						2.9
20	250	8.5						2.7
21	270	8.0						2.8
22	260	8.0					1.8	2.8
23	270	8.0					1.8	2.8

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 27

Watheroo, W. Australia (30.3°S, 115.9°E) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	280	6.0					2.9	2.8
01	260	5.8					2.6	2.8
02	260	5.7					2.9	2.9
03	250	5.3					3.2	2.9
04	240	4.9					2.8	2.8
05	260	4.5					3.0	2.8
06	265	5.1				1.7	2.4	2.9
07	240	7.1				2.4	2.4	3.2
08	262	8.4	230	4.7		2.9	3.3	3.2
09	280	9.1	220	5.0		3.3	3.6	3.1
10	280	10.2	210	5.2		3.4	3.7	3.0
11	290	10.7	215	5.3		3.5	3.8	2.9
12	302	11.0	215	5.5		3.5	4.0	2.8
13	300	11.2	220	5.4		3.6	4.0	2.8
14	300	11.2	228	5.5		3.6	3.9	2.8
15	298	11.4	232	5.4		3.4	3.7	2.8
16	280	11.1	238	5.2		3.3	3.5	2.9
17	260	10.5	240	4.7		2.8	3.3	2.9
18	248	10.1				2.0	3.0	3.0
19	225	9.2					2.6	3.0
20	230	8.0					2.6	2.9
21	250	7.3					2.8	2.8
22	258	6.7					2.8	2.8
23	270	6.2					2.8	2.8

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes, automatic operation.

Table 28

Canberra, Australia (35.3°S, 149.0°E) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	280	6.8					2.6	2.7
01	278	6.6					2.6	2.6
02	260	6.4					2.7	2.6
03	270	6.0					2.7	2.5
04	270	5.5					2.5	2.6
05	270	5.2					2.4	2.7
06	250	5.4			130	1.7		3.0
07	240	7.4			110	2.4	3.2	3.2
08	240	8.6	240	4.2	100	3.0	3.5	3.1
09	250	9.4	220	4.4	100	3.3		3.1
10	255	10.2	210	4.6	100	3.6		3.0
11	250	10.5	200	4.7	100	3.6	3.3	2.9
12	280	11.0	200	4.6	100	3.7		2.8
13	275	11.0	220	4.8	100	3.7		2.9
14	260	11.0	220	4.8	100	3.6		2.9
15	260	10.6	230	4.6	100	3.5		2.9
16	255	10.2	230	4.4	100	3.2		2.9
17	240	10.3	250	4.3	110	2.8	3.2	3.0
18	240	9.7			120	2.1	2.6	3.0
19	240	9.0					2.6	3.0
20	240	8.0						2.8
21	255	7.6					2.5	2.8
22	270	7.0					2.6	2.7
23	280	7.0					2.8	2.6

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 29

Hobart, Tasmania (42.8°S, 147.4°E) March 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	275	6.0						2.6
01	262	5.6						2.7
02	260	5.3					2.4	2.7
03	258	5.0					2.5	2.7
04	260	4.8					2.6	2.8
05	255	4.5					2.1	2.8
06	255	4.6					2.1	2.9
07	250	6.3			100	2.3	2.1	3.1
08	250	7.3	240		100	2.8	3.0	3.1
09	275	7.5	235	4.5	100	3.1	4.0	3.1
10	300	8.5	220	5.0	100	3.2	4.0	3.1
11	292	9.1	210	5.0	100	3.3	4.0	3.1
12	295	9.1	205	5.0	100	3.5	3.8	3.0
13	300	9.0	210	5.0	100	3.5	3.5	3.1
14	292	9.5	210	5.0	100	3.5	3.5	3.1
15	275	9.2	210	4.8	100	3.2	3.1	3.0
16	255	9.5	210	4.5	100	3.0		3.0
17	250	9.5	242		100	2.6	2.8	3.0
18	250	9.5					2.4	3.0
19	250	9.0						3.0
20	250	8.2						2.9
21	250	7.3						2.8
22	250	6.5						2.7
23	260	6.2						2.6

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 30*

Slough, England (51.5°N, 0.6°W) February 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	292	4.0					2.6	2.5
01	294	4.0					2.6	
02	297	3.7					2.6	2.5
03	296	3.4					2.5	
04	279	3.0					0.9	2.5
05	266	2.8					2.4	2.7
06	274	2.8			175#	1.4#		2.7
07	244	4.9			153	1.6	3.0	
08	228	7.6			123	2.1	3.3	3.2
09	226	9.4	220#	3.6	118	2.6	3.3	
10	228	10.2	219	4.2	115	2.9	3.3	3.1
11	230	10.8	219	4.6	115	3.1	3.3	
12	233	11.0	224	4.7	116	3.1	3.3	3.0
13	232	10.9	221	4.3	115	3.1		
14	232	10.8	218	4.4	116	3.0		3.0
15	229	10.6	220#		119	2.7		
16	227	10.1			121	2.3	3.3	3.1
17	221	9.2			129	1.8	3.3	
18	219	8.1					2.6	3.0
19	227	6.7						
20	242	5.9					2.5	2.8
21	262	4.9					2.6	
22	283	4.5					2.0	2.6
23	291	4.3					2.6	

Time: Local.
Sweep: 0.5 Mc to 14.0 Mc in 6 minutes; 14.0 Mc to 25.0 Mc, manual operation.
*Average values except for f°F2 and fEs, which are median values.
#Less than 3 observations.

Table 31

Lanchow, China (36.1°N, 103.8°E) February 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	420	4.0						2.3
01	405	4.4						2.3
02	400	4.5						2.4
03	370	4.5						2.4
04	345	4.4						2.5
05	360	4.0						2.5
06	395	3.9						2.4
07	325	6.1						2.5
08	320	(9.8)	295		180	2.9		(2.6)
09	340	(10.8)	290		145	3.2		(2.6)
10	330	11.5	290		150	3.4	3.8	2.7
11	340	13.2	280				3.6	2.6
12	320	13.0	280		130	3.9	3.6	2.6
13	340	(14.0)	280				3.8	(2.5)
14	340	12.5	280	5.2	135	3.6	3.3	2.6
15	330	12.5	280				3.8	2.6
16	320	11.5	290		160	3.2	3.5	2.6
17	320	11.6	290				3.3	2.7
18	300	10.0						2.6
19	300	(7.4)						(2.6)
20	300	(6.3)						(2.7)
21	320	5.2						2.6
22	360	4.6						2.4
23	390	4.2						2.3

Time: 105.0°E.
Sweep: 2.4 Mc to 16.0 Mc in 15 minutes, manual operation.

Table 32

Nanking, China (32.1°N, 119.0°E) February 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05	300	4.0						2.5
06	320	3.8						2.4
07	280	6.0					1.7	2.8
08	245	9.1			140	2.5	2.8	3.0
09	280	10.1	240				3.5	2.9
10	305	11.7	240				3.9	2.8
11	320	13.0	240				4.3	2.9
12	320	13.0	240		120	3.7	4.4	2.7
13	320	13.2	230		100	3.3	4.4	2.8
14	340	12.7	240		100	3.5	4.2	2.6
15	320	12.3	240		100	3.4	3.9	2.6
16	320	13.0	240			3.2	3.6	2.6
17	280	12.0	240				2.9	2.7
18	240	11.0					1.9	2.8
19	240	9.6					1.7	2.7
20	240	8.7					1.8	2.7
21	240	6.8						2.6
22	250	5.6						2.6
23								

Time: 120.0°E.
Sweep: 1.7 Mc to 15.0 Mc in 20 minutes, manual operation.

Table 33

Delhi, India (28.6°N, 77.1°E) February 1948

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000**
00	390	5.4						2.7
01	390	4.8						
02	(390)	(4.9)						
03	360	4.2						
04	390	3.6						3.
05	390	3.4						
06	390	3.7						
07	330	7.2						
08	300	9.7						3.2
09	330	10.8						
10	360	12.0						
11	360	12.6						
12	360	13.2						2.9
13	360	13.3						
14	360	13.2						
15	360	13.2						
16	360	13.2						2.8
17	360	12.6						
18								
19								
20	360	10.0						2.8
21	360	8.1						
22	375	7.2						
23	390	6.2						

Time: Local.
Sweep: 1.8 Mc to 16.0 Mc in 5 minutes, manual operation.
*Height at 0.83 f°F2.
**Average values; other columns, median values.

Table 34

Okinawa I. (26.3°N, 127.7°E) February 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		(7.5)						(2.9)
01		(7.4)						(2.8)
02		(6.2)						(2.9)
03		(5.7)						(3.0)
04		(4.9)						(3.3)
05		(4.0)						(2.9)
06		(3.2)						(2.8)
07		(5.3)						(3.0)
08		(8.8)						(3.3)
09		10.6						3.3
10		11.8						(3.1)
11		(13.0)		(4.6)				(3.1)
12		(13.7)		(4.8)				(3.0)
13		(14.2)		(5.7)				(2.9)
14		(15.1)		(5.4)			(4.3)	(3.0)
15		(15.4)		(5.5)			(4.1)	2.9
16		(15.6)					(3.4)	(2.9)
17		(15.8)					(3.2)	3.0
18		(15.4)						3.1
19		(14.2)						(3.0)
20		(13.1)						(3.0)
21		(12.4)						(3.0)
22		(11.2)						(3.1)
23		(9.0)						(3.0)

Time: 135.0°E.
Sweep: 1.8 Mc to 18.0 Mc in 15 minutes, manual operation.

Table 35

Bombay, India (19.0°N, 73.0°E) February 1948

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000**
00								
01								
02								
03								
04								
05								3.0
06								
07	330	7.5						
08	330	11.2						
09	330	12.3						3.2
10	360	13.8						
11	(390)	(14.0)						
12	(390)	(14.1)						
13		(14.3)						2.7
14		(14.3)						
15	(450)	(14.3)						
16	(420)	(14.3)						
17	(450)	(14.3)						2.7
18	(390)	(14.2)						
19	(390)	(14.1)						
20		(13.8)						
21								
22								
23								

Time: Local.
Sweep: 1.8 Mc to 16.0 Mc in 5 minutes, manual operation.
*Height at 0.83 f°F2.
**Average values; other columns, median values.

Table 36

Madras, India (13.0°N, 80.2°E) February 1948

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000**
00								
01								
02								
03								
04								
05								
06								
07	360	7.6						
08	420	11.6						2.7
09	480	11.8						
10	540	12.0						
11	540	11.8						
12	540	12.0						2.2
13	600	11.9						
14	600	11.8						
15	600	12.0						
16	600	12.4						2.2
17	600	12.5						
18	540	12.4						
19	540	11.9						
20	510	11.7						2.3
21								
22		(11.9)						
23								

Time: Local.
Sweep: 1.8 Mc to 16.0 Mc in 5 minutes, manual operation.
*Height at 0.83 f°F2.
**Average values; other columns, median values.

Table 37

Hobart, Tasmania (42.8°S, 147.4°E) February 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	6.5					2.8	2.6
01	260	6.0					2.8	2.6
02	250	5.5					2.8	2.7
03	252	5.4					3.0	2.7
04	255	5.0					2.7	2.7
05	250	4.6						2.8
06	250	5.0					2.8	3.1
07	250	6.0	235		100	2.6	3.9	3.0
08	298	6.9	240	4.6	100	3.0	4.5	3.0
09	315	7.3	240	5.0	100	3.3	5.0	2.9
10	340	7.5	200	5.3	100	3.5	5.6	2.9
11	312	7.8	200	5.0	100	3.6	5.3	3.0
12	340	7.5	202	5.5	100	3.8	5.0	2.8
13	350	8.0	210	5.3	100	3.8	5.1	2.8
14	325	8.0	205	5.1	95	3.8	4.8	3.0
15	308	7.5	200	5.1	95	3.6	4.2	2.9
16	305	7.5	205	5.0	95	3.5	3.7	2.9
17	300	8.0	225	4.6	100	3.0	3.8	2.9
18	255	8.0	240		100	2.5	3.5	3.0
19	250	8.0					2.5	3.0
20	250	8.0						2.9
21	250	7.5					3.2	2.8
22	265	7.0					3.3	2.7
23	280	6.9					3.4	2.6

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 38*

Falkland Is. (51.7°S, 57.8°W) February 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	328	7.7					3.4	2.5
01	324	7.6					3.4	2.6
02	312	7.6					2.4	2.5
03	314	7.3						2.5
04	320	6.9						2.5
05	274	7.4	245#	4.8#	125#	2.8#		2.6
06	271	8.5	255#	4.9#	128	2.6		2.6
07	262	9.0	253#	4.7#	118	2.9	3.5	2.7
08	267	9.5		5.1#	112	3.2	4.3	2.7
09	268	10.6	236	5.7	111	3.4	4.6	2.7
10	318	10.9	230	5.5	110	3.5	5.6	2.8
11	293	11.0	220	5.5	110	3.6	5.7	2.8
12	290	11.3	229	5.5	109	3.7	5.9	2.8
13	283	10.9	237	5.5	110	3.5	5.5	2.8
14	278	10.0	235	5.3	111	3.4	5.0	3.0
15	280	9.4	242	5.2	111	3.3	4.2	3.0
16	268	9.6	250	5.3#	113	3.1	4.2	3.0
17	255	9.5			119	2.9	5.1	3.0
18	258	9.0			115	2.5	4.6	3.1
19	264	8.6					4.8	3.0
20	284	8.2					4.6	2.7
21	293	8.2					4.2	2.8
22	318	8.1					3.6	2.6
23	314	7.9					3.7	2.5

Time: Local.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute.
*Average values except f°F2 and fEs, which are median values.
#One or two values only.

Table 39 (Supersedes Table 2, CRPL-F43).

Clyde, Baffin I. (70.5°N, 68.6°W) January 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	4.6						2.8
01	300	(4.6)						(2.8)
02	300	(4.3)						(2.8)
03	290	(4.2)						2.7
04	320	(4.2)						(2.7)
05	320	(4.2)						2.9
06	340	(4.3)						2.7
07	340	(4.2)						(2.7)
08	300	4.8						3.0
09	280	(6.0)						(3.0)
10	265	(7.2)						3.1
11	260	8.0						3.0
12	260	(8.2)						(3.0)
13	260	(8.2)						(3.0)
14	260	(8.0)						3.0
15	270	(7.7)						(3.0)
16	260	(6.3)						2.9
17	270	(5.8)						(2.8)
18	300	(5.8)						(2.8)
19	280	(5.7)						(3.0)
20	280	(5.2)						(3.0)
21	290	(5.2)						2.9
22	270	(4.9)						(2.9)
23	300	(4.5)						(2.8)

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 40

Nanking, China (32.1°N, 119.0°E) January 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05	355	3.4						2.4
06	300	3.5						2.4
07	265	5.6						2.6
08	260	9.2	250		150	2.4		2.8
09	270	11.2	250		140	3.0		2.8
10	270	12.1	240		120	3.3	3.4	2.7
11	275	13.0	230		120	3.5	4.0	2.7
12	300	13.2	240	6.8	130	3.6	4.2	2.6
13	290	13.6	240		120	3.7	4.2	2.7
14	290	13.2	230	5.6	120	3.5	4.0	2.6
15	290	13.3	220		100	3.4	3.9	2.7
16	280	13.2	250		130	3.0	3.6	2.7
17	260	12.5	240		140	2.5	2.7	2.7
18	215	9.2						2.8
19	230	8.1						2.6
20	240	8.4						2.7
21	225	6.8						2.7
22	240	5.4						2.5
23								

Time: 120.0°E.
Sweep: 1.7 Mc to 15.0 Mc in 15 minutes, manual operation.

Table 41

Falkland Is (51.7°S, 57.8°W) January 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	334	9.4					3.0	2.5
01	323	9.1					3.5	2.5
02	326	8.6					3.2	2.4
03	324	8.5					3.0	
04	302	8.9						2.4
05	275	9.5	265#	4.6#	135	2.4		
06	321	9.8	244	5.1	116	2.8	3.6	
07	354	10.3	245	5.2	111	3.2	4.3	2.4
08	351	10.2	244	5.6	110	3.5	4.6	2.4
09	367	10.2	236	5.8	109	3.7	6.0	2.5
10	373	10.6	228	5.8	108	3.8	6.3	2.5
11	370	11.0	231	5.8	107	3.8	5.9	2.6
12	360	10.7	239	5.9	108	3.8	5.2	2.6
13	353	10.3	235	5.8	108	3.7	5.4	2.6
14	354	9.7	238	5.6	109	3.6	4.4	2.7
15	355	9.0	240	5.5	110	3.6	4.8	2.7
16	342	8.7	243	5.3	110	3.4	4.5	2.7
17	318	8.5	251	5.2	118	3.1	5.2	2.8
18	278	8.4				2.7	5.4	2.8
19	281	8.2					4.4	2.7
20	298	8.1					4.4	2.5
21	327	8.6					4.0	2.4
22	335	8.9					4.4	2.5
23	336	9.2					3.9	2.4

Time: Local.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute.
*Average values except for foF2 and fEs, which are median values.
#Less than 3 observations.

Table 42

Fribourg, Germany (48.1°N, 7.8°E) September 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	310	(5.6)					1.8	
01	320	(5.3)					2.4	
02	318	(4.9)					2.3	
03	330	4.8					1.8	
04	325	4.4					2.3	
05	300	4.2				1.6	2.2	
06	260	5.0			120	1.9		
07	260	6.2	230		110	2.7	3.3	
08	(260)	7.0	230		110	3.1	3.8	
09	(300)	(8.4)	220		105	3.4	4.0	
10		9.0	220		108	3.5	4.2	
11	(330)	(9.3)	220	(5.4)	105	3.6	4.8	
12	(330)	9.6	220		105	3.7	4.8	
13	(325)	(10.2)	230		110	3.6	4.0	
14	(350)	10.1	230		105	3.5	4.1	
15	340	(9.3)	230		110	3.4	3.7	
16	(260)	(9.3)	230		102	3.2	3.6	
17	248	(9.2)	235		108	2.6	3.3	
18	250	(8.7)			108	1.9	2.9	
19	245	(8.2)					2.7	
20	250	(8.0)					2.0	
21	270	(6.9)					2.0	
22	300	(6.2)						
23	305	(6.0)					1.6	

Time: Local.
Sweep: 1.4 Mc to 16.6 Mc in 10 minutes, automatic operation, September 1 through 22; 1.6 Mc to 17.6 Mc in 10 minutes, automatic operation, September 23 through 30.

Table 43

Fribourg, Germany (48.1°N, 7.8°E) August 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	330	6.2					3.5	
01	310	5.8					2.7	
02	315	5.9					2.8	
03	310	5.6					3.3	
04	290	5.5					2.3	
05	270	5.6			105	1.6	3.1	
06	250	6.7	230		100	2.4	4.0	
07	(275)	7.0	220		100	2.9	4.7	
08	345	(7.8)	220	(5.0)	100	3.3	4.8	
09	(345)	8.1	220	(5.1)	100	3.8	5.2	
10	350	8.8	210	(5.5)	100	3.9	5.2	
11	360	8.8	220	(5.8)	100	(4.0)	5.2	
12	440	8.6	220	(5.5)	100	4.0	5.0	
13	365	8.6	220	(5.6)	100	(4.0)	4.9	
14	360	8.6	(225)	(5.6)	100	3.8	5.0	
15	(340)	8.4	230	(5.7)	100	3.8	4.6	
16	360	8.3	240	(5.5)	100	3.6	4.6	
17	(300)	8.3	240		102	3.0	4.3	
18	(250)	8.4	235		108	2.5	3.9	
19	260	8.4			110	1.9	3.2	
20	250	(8.0)					3.7	
21	255	(7.5)					4.3	
22	285	(7.0)					3.6	
23	300	6.5					3.0	

Time: Local.
Sweep: 1.4 Mc to 16.6 Mc in 10 minutes, automatic operation.

Table 44 (Supersedes Table 2, CRPL-F42)

Clyde, Baffin I. (70.5°N, 68.6°W) December 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	300	4.5						2.8
01	300	4.5						2.7
02	300	4.3						(2.8)
03	315	4.0						2.7
04	(305)	3.4						2.6
05	(300)	3.3						2.7
06	300	4.2						(2.8)
07	315	3.9						2.8
08	300	4.7						2.8
09	290	5.5						(2.9)
10	275	6.6						2.9
11	280	6.8						(3.0)
12	270	8.1						(3.0)
13	270	8.2						(2.9)
14	265	8.0						2.9
15	270	(7.4)						(2.8)
16	290	6.7						(2.8)
17	280	(6.0)						(2.8)
18	300	6.0						(2.8)
19	300	5.9						2.8
20	300	5.6						(2.8)
21	300	(5.6)						(2.8)
22	300	5.4						(2.8)
23	300	4.8						2.8

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 45 (Supersedes Table 2, CRPL-F41)

Clyde, Baffin I. (70.5°N, 68.6°W) November 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	6.7						2.7
01	300	5.2						2.7
02	300	4.8						2.7
03	320	5.0						2.7
04	300	4.7						2.7
05	300	4.4						2.7
06	320	5.2						2.6
07	300	6.2						2.8
08	285	7.2						2.8
09	270	8.0						2.8
10	270	8.6						(2.9)
11	270	8.7						2.8
12	270	9.0						2.9
13	260	9.2						(2.9)
14	250	(9.5)						(2.9)
15	260	(9.2)						(2.9)
16	270	(9.0)						2.8
17	280	8.2						(2.7)
18	300	(8.0)						2.8
19	290	6.8						2.7
20	280	(7.2)						(2.8)
21	300	(7.2)						(2.8)
22	280	7.0						(2.8)
23	295	6.7						2.8

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 46 (Supersedes Table 2, CRPL-F40)

Clyde, Baffin I. (70.5°N, 68.6°W) October 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	5.6						2.8
01	300	5.9						2.7
02	290	5.9						2.6
03	315	5.1						2.6
04	340	4.9						2.7
05	320	4.8						2.7
06	300	5.5						2.8
07	295	6.2						2.8
08	300	6.8						(2.8)
09	280	7.1						2.9
10	280	7.8						2.9
11	310	7.1	280	3.9				2.8
12	300	7.2	265	4.0				2.7
13	300	7.3		4.0				2.8
14	280	7.0	280	4.0				2.8
15	280	7.2						2.9
16	285	7.9						2.8
17	280	7.8						2.8
18	300	7.0						2.7
19	300	6.2						2.7
20	300	6.6						2.7
21	300	6.8						2.7
22	300	(6.6)						(2.7)
23	300	5.8						2.7

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 47 (Supersedes Table 2, CRPL-F39)

Clyde, Baffin I. (70.5°N, 68.6°W) September 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	4.6						2.5
01	310	3.7						2.6
02	(290)	3.4						2.6
03	(320)	3.1						2.5
04	300	4.7						2.7
05	300	4.7						2.8
06	300	5.5		3.3				2.9
07	345	5.4		3.7				2.8
08	395	6.4		4.0				2.7
09	350	6.0	270	4.3				2.7
10	430	6.3		4.3				2.6
11	455	5.9	260	4.4				2.6
12	440	5.8	250	4.5				2.6
13	440	5.8	250	4.4				2.6
14	455	5.6	245	4.4				2.6
15	400	5.8	250	4.0	150	(2.8)		2.6
16	380	5.4	270	4.0		3.0		2.7
17	300	5.4	270	3.9				2.8
18	300	5.4						2.7
19	300	5.6						2.8
20	300	4.8						2.6
21	305	4.8						2.5
22	290	5.4						2.7
23	295	4.5						2.6

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 48 (Supersedes Table 2, CRPL-F38)

Clyde, Baffin I. (70.5°N, 68.6°W) August 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	5.2						2.7
01	300	4.8						2.8
02	310	4.6						2.7
03	310	5.0						2.8
04	310	5.1		3.6				2.8
05	390	5.4	250	3.6	145	2.7		2.7
06	380	5.4	260	4.0				2.7
07	450	5.2	265	4.1				2.7
08	500	5.5		4.3				2.5
09	495	5.5	250	4.6				2.4
10	520	5.7	255	4.6				2.5
11	490	5.6	240	4.7				2.5
12	450	5.8	245	4.8				2.6
13	460	5.2	250	4.8				2.6
14	490	5.7	250	4.7	120	3.4		2.5
15	520	5.5	250	4.4		3.4		2.5
16	520	5.6	250	4.4	145	3.0		2.4
17	445	5.6	250	4.1				2.6
18	380	5.4	250	4.0		2.9		2.6
19	350	5.6	250	3.6	145	2.6		2.7
20	300	5.7	260		170	2.4		2.7
21	300	5.4	280					2.8
22	300	5.2						2.7
23	300	5.0						2.7

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 49 (Supersedes Table 19, CRPL-F38)

Clyde, Baffin I. (70.5°N, 68.6°W) July 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	300	5.7						2.9
01	295	5.4						2.9
02	300	5.7	250	3.4				2.9
03	310	5.4	250	3.9				2.9
04	350	5.4	250	4.0				2.9
05	400	5.4	250	4.2				2.8
06	500	5.5	250	4.3				2.7
07	480	5.6	250	4.5				2.7
08	(520)	5.9	255	4.8				2.5
09	(550)	5.5	230	4.8				(2.3)
10	(535)	5.6	250					2.4
11	(550)	(5.6)	250	4.7				(2.4)
12	(600)	5.8	250	4.7				2.5
13	570	5.7	240	4.9				2.4
14	540	5.9	210	4.7				2.4
15	530	5.8	230	4.8				2.5
16	500	5.8	240	4.7				2.5
17	480	5.8	240	4.6				2.6
18	440	5.8	250	4.3				2.6
19	400	5.6	250	4.0				2.7
20	345	5.9	250	4.1				2.8
21	320	5.6	255	3.4				2.8
22	290	5.8						2.9
23	300	5.6						2.8

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 50 (Supersedes Table 2, CRPL-F36)

Clyde, Baffin I. (70.5°N, 68.6°W) June 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	370	5.3	340	3.3				2.5
01	350	5.1		3.6				2.6
02	380	5.5		3.5				2.6
03	440	5.2	290	3.9				2.6
04	515	5.0	275	4.0				2.5
05	580	4.8	300	4.2				2.3
06	570	5.0	255	4.4				2.5
07	550	5.3	250	4.3				2.3
08	(590)	5.3	250	4.5				(2.2)
09	(550)	(5.3)		4.6				(2.4)
10	(590)	(5.5)	250	4.6				(2.3)
11	(560)	(5.5)	250	4.6				(2.3)
12	560	5.5	250	4.7				2.4
13	570	5.4	250	4.6				2.4
14	(555)	5.6	250	4.6				(2.4)
15	600	5.4	250	4.6				2.3
16	520	5.5	250	4.4				2.4
17	500	5.5	280	4.3				2.5
18	480	5.6	275	4.2				2.5
19	450	5.4	260	4.1				2.6
20	425	5.5	290	3.7				2.6
21	350	5.5		3.8				2.7
22	380	5.5						2.5
23	350	5.5						2.6

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 51 (Supersedes Table 2, CRPL-F35)

Clyde, Baffin I. (70.5°N, 68.6°W) May 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	315	5.6						2.8
01	300	5.7						2.8
02	330	5.6						2.8
03	300	5.3	300					2.9
04	350	5.3	275	3.8				2.7
05	335	5.4	270	4.2				2.8
06	415	5.9		4.4				2.7
07	405	5.8	270	4.6				2.6
08	465	5.8		4.6				2.6
09	(460)	(6.0)		4.6				(2.6)
10	(450)	6.0		4.6				2.6
11	(435)	(6.2)	250	4.6				(2.6)
12	475	(6.4)	250	4.6				(2.5)
13	470	6.0		4.8				2.6
14	450	5.8	250	4.8				2.4
15	465	6.1	265	4.8				2.5
16	430	6.2	255	4.7				2.6
17	420	6.2	250	4.4				2.6
18	400	6.0	300	4.1				2.6
19	320	6.0	290					2.8
20	315	5.8						2.7
21	330	5.8						2.7
22	300	6.0						2.8
23	330	5.7						2.8

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 52 (Supersedes Table 2, CRPL-F34)

Clyde, Baffin I. (70.5°N, 68.6°W) April 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	340	5.4						2.6
01	340	5.2						2.6
02	335	5.1						2.7
03	350	4.4						2.7
04	340	5.4						2.7
05	340	5.2						2.7
06	350	6.1						2.7
07	400	5.8						(2.7)
08	440	6.0		4.5				(2.5)
09	440	6.6		4.6				2.6
10								
11	460	6.2						(2.5)
12	450	6.6	300	5.0				(2.6)
13	400	6.2		4.8				(2.6)
14	450	6.0		4.6				2.6
15	400	6.4	280	4.6				2.6
16	320	6.2	275	4.4				2.6
17	390	6.6						2.6
18	345	6.6						2.7
19	325	6.6						2.8
20	320	6.8						2.7
21	310	6.3						2.8
22	320	5.7						2.8
23	340	6.2						2.8

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 53 (Supersedes Table 18, CRPL-F34)

Clyde, Baffin I. (70.5°N, 68.6°W) March 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	320	5.2						2.7
01	330	5.4						2.8
02	335	4.7						2.6
03	320	4.7						2.8
04	330	4.6						2.8
05	340	4.5						2.7
06	350	5.6						2.8
07	300	6.0						2.9
08	315	6.2						2.8
09	(300)	7.0						2.9
10	(300)	6.0						2.9
11		(6.2)						2.8
12		6.0						2.6
13	(365)	6.0						2.6
14	(350)	6.6						2.8
15	(300)	6.8						2.8
16	320	6.0						2.6
17	300	5.8						2.8
18	320	5.8						2.7
19	315	5.8						2.8
20	320	5.4						2.7
21	330	5.8						2.7
22	330	5.4						2.8
23	310	5.0						2.7

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 54 (Supersedes Table 13, CRPL-F33)

Clyde, Baffin I. (70.5°N, 68.6°W) February 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	340	5.2						2.8
01	330	5.3						2.8
02	335	4.6						2.8
03	340	4.8						2.8
04	335	3.4						2.7
05	350	4.6						2.6
06	350	4.9						2.7
07	330	5.4						2.8
08	330	5.7						2.8
09	300	7.4						2.9
10	300	8.6						2.9
11	300	8.1						2.9
12	300	8.6						2.9
13	300	8.8						3.0
14	290	8.4						2.9
15	300	9.4						2.9
16	300	8.9						2.9
17	300	8.2						2.9
18	310	7.3						2.9
19	320	6.0						2.9
20	320	6.2						2.8
21	300	6.2						2.8
22	320	5.6						2.9
23	330	5.1						2.8

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 55 (Supersedes Table 13, CRPL-F32)

Clyde, Baffin I. (70.5°N, 68.6°W) January 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	320	4.6						2.8
01	340	4.4						2.8
02	300	3.5						2.9
03	330	3.8						2.8
04	330	3.6						2.9
05	330	3.6						2.8
06	300	4.4						2.8
07	300	3.8						2.8
08	300	4.7						2.9
09	300	5.2						2.9
10	300	5.6						3.0
11	285	6.6						3.0
12	290	6.8						3.0
13	290	8.8						3.0
14	290	8.2						2.9
15	300	8.6						2.9
16	300	7.4						2.9
17	300	5.8						2.8
18	290	5.8						2.9
19	300	5.4						2.8
20	300	5.6						2.9
21	300	4.9						2.9
22	300	4.8						2.9
23	320	4.4						2.8

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

TABLE 56

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adopted June 1946

h'F2 (Characteristic), Km (Unit), June (Month), 1948

Observed at Washington, D.C.

Lat 39.0°N, Long 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: M. J. H., K. L. W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	310	330	350	320	330	310	370	470	(450)	520	520	S	G	480	500	C	440	370	350	260	260	270	270	S
2	280	310	310	310	290	250	240	320	330	300	350	350	410	390	380	380	360	340	240	$(270)^S$	250	260	200	260
3	260	250	$(340)^A$	260	280	$(280)^C$	$(250)^A$	$(400)^S$	440	430	G	G	G	510	480	460	460	$(400)^S$	340	270	$(280)^A$	270	280	280
4	280	270	270	260	270	270	230	340	470	480	S^C	460	420^H	420	410	C	400	370	230	$(260)^A$	$(250)^A$	270^A	250	260
5	260	$(300)^A$	$(270)^A$	260	250	250	270	260	380	410	440	500	530	450	C	480	450	400	350	$(280)^A$	A	280^A	280	280
6	280	260	$(300)^A$	$(330)^A$	280	280	240	330	370	G^K	G^K	630^K	580^K	530^K	570^K	500^K	450^K	450^K	380	270	250	260	280	$(300)^A$
7	$(300)^A$	$(340)^A$	$(280)^A$	$(280)^A$	270	260	240	260	380	430	370	370	(450)	380	410	400	400	400	320	260	$(260)^A$	$(250)^A$	$(270)^A$	280
8	280	270	290	280	$(290)^A$	270	370	390	500	380	430	450	450	450	480	430	400	300	300	270	250	250	290	300
9	250	250	280	260	300	280	390	450	450	$(490)^S$	370	410	420	430	430	400	400	340	230^H	250^H	280^S	$(270)^A$	270	270
10	$(290)^A$	$(330)^A$	270	$(300)^A$	250	210^H	400	350^H	400	330	450	410	430	400	430	430	420	350	330	$(280)^A$	$(260)^A$	$(250)^A$	$(250)^A$	$(280)^A$
11	$(300)^A$	$(300)^A$	$(300)^A$	260	$(270)^A$	280	230	300	330	370	360	$(400)^A$	400	380	380	370	400	330	$(230)^A$	$(260)^A$	A	$(270)^A$	$(260)^A$	$(300)^A$
12	$(250)^A$	$(250)^A$	A	$(300)^A$	$(260)^A$	250	320	350	390	380	490	S	500	460	430	440	420	420	330	260	250	230	260	260
13	250	300	$(280)^S$	270	260	250^H	$(240)^A$	C	620	550	510	690	450	$(500)^S$	490	450	470	350	300^H	$(280)^A$	$(250)^A$	$(270)^A$	$(270)^A$	$(330)^A$
14	$(280)^A$	$(290)^A$	$(290)^A$	$(290)^A$	260	260	240^F	320	300	380	410	(430)	420	400	A	350	340	300	270	250	$(250)^A$	$(290)^A$	$(250)^A$	260
15	250	$(270)^A$	280	250	240	250	230	220	300^H	300	$(370)^C$	320^H	340^H	350	360	350	320	300	$(260)^A$	$(220)^A$	250	240	240	240
16	250	250	$(260)^A$	$(280)^A$	$(250)^A$	250	$(230)^A$	$(280)^H$	250	310	330	340	320	350	340	340	330	300	$(270)^A$	$(260)^A$	$(240)^A$	$(250)^A$	260	260
17	260	$(270)^A$	250	270	250	270	230	280	330	330	$(350)^A$	A	$(390)^C$	350	400	350	350	350^H	300	240	250	250	$(300)^A$	$(310)^A$
18	300	250	280	270	250	280	500	340	450	350	430	420	400	400	430	430	420	350	320	$(250)^A$	250	250	240	250
19	270	270	270	230	330	400^K	390^K	510^K	500^K	550^K	G^K	G^K	G^K	730^K	650^K	G^K	500^K	410^K	370^K	$(260)^A_K$	$(280)^A_K$	$(290)^A_K$	$(280)^A$	260
20	260	280	280	280	300	280	230	380	450	380	410	430	400	490	440	400	350	370	280	$(240)^A$	250	250	$(270)^A$	$(300)^A$
21	320	$(250)^A$	$(310)^A$	$(300)^A$	260	260	240^H	430^H	380	430	390	480	490	530	500	450	460	350	350	270	250	240	250	300
22	310	280	280	270	270	280	$(230)^A$	300^F_S	460^K	470^K	690^K	750^K	500^K	690^K	550^K	490^K	500^K	420^K	350^K	A^K	$(270)^A_K$	280^K	270	270
23	270	240	240	260	260	250	250	330	330	380	410	430	420	400	430	410	400	350	230	250	$(250)^A$	270	270	260
24	250	270	260	250	250	280	250	350	400	C	$(490)^S$	480	G	500	470	G	500	400	340	$(260)^A$	250	250	$(290)^A$	$(300)^A$
25	280	260	$(260)^A$	250	250	280	230^A	300	350	300	360	A	400	400	380	370	370	330	$(300)^A$	$(240)^A$	$(280)^A$	250	260	260
26	220	260	280	270	260	270	430	480	400^K	G^K	530^K	G^K	630^K	450^K	580^K	A^K	490^K	460^K	330^K	$(280)^A$	280	280	260	$(280)^A$
27	270	270	270	280	280	300	$(240)^A$	320^K	350^K	490^K	G^K	G^K	G^K	630^K	G^K	A^K	A^K	450^K	350^K	$(250)^A_K$	270	260	270	$(280)^A$
28	280	280	260	$(300)^A$	$(300)^A$	250	230	250	240	300	A	350	$(400)^A$	360	420	360	360	310	$(270)^A$	$(260)^A$	$(250)^A$	$(300)^A$	$(270)^A$	250
29	$(280)^A$	$(300)^A$	240	270	A	$(270)^A$	250	330	350	360	400	400	450	420	$(430)^B$	400	380	330	300	250	260	250	250	250
30	250	270	250	240	280	270	300	330	310	C	C	430	$(380)^B$	440	$(400)^C$	C	370	350	230	$(250)^A$	250	260	280	280
31																								
Median	275	270	280	270	270	270	240	330	380	380	430	430	440	435	430	410	400	350	300	260	250	260	270	280
Count	30	30	29	30	29	30	30	29	30	28	27	26	30	30	28	25	27	30	30	29	28	30	30	29

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 57

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adopted June 1946

f°F2 (Characteristic) . Mc (Unit) . June (Month) , 1948

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Lat 39.0°N , Long 77.5W

75°W Mean Time

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: K. L. W., M. J. H.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	6.6	(5.7)F	3.6F	3.1F	3.3F	4.5	4.9F	5.1F	(6.4)J	6.9	7.2	(6.9)S	G	6.8	6.8	[6.8]C	(6.8)S	7.3	7.4	7.3	7.1	7.2	7.1	[6.6]S
2	(6.2)J	5.8	P(5.4)FS	5.3	5.3	5.8	6.8	7.6	8.4	8.8	9.6	9.2	9.2	9.0	9.0	8.8	8.8	8.6	8.6	8.6	8.8	[8.6]SC	(8.5)JC	(7.6)JP
3	(7.7)JP	(6.8)JP	(6.4)J	(5.9)P	(6.1)JC	5.8	(6.1)P	(6.3)JS	(6.4)P	6.8	G	G	G	6.7	6.9	7.0	6.9	(7.0)J	6.9	(6.8)JS	6.7	7.1	7.1	(6.9)J
4	(6.8)J	6.2	(5.7)SP	5.5V	5.3	5.5	6.4	6.9	7.6	7.9	7.4	7.9	8.0	8.1	8.5	[8.3]C	8.1	8.7	8.5	8.0	(8.0)J	8.1	7.9	7.2
5	7.1	7.0	(6.9)JS	6.7	6.4	6.4	P(6.8)JS	7.3	7.3	7.8	7.8	7.2	7.6	7.6	7.0	7.0	6.9	7.2	6.9	7.2	7.4	7.6	7.3	(6.9)J
6	(6.8)J	6.3	5.9	5.9	5.5	5.9	(6.6)J	6.8	6.2	GK	GK	6.1K	6.3K	(6.7)JK	(6.3)SK	6.6K	6.7K	6.6K	7.1	7.1	7.0	6.9	7.0	7.1
7	6.8	6.7	6.2	5.9	5.9	6.2	7.5	8.1	7.9	8.6	9.2	9.0	9.3	9.0	8.8	8.4	8.3	8.6	9.0	8.9	8.7	7.6	6.9	(6.7)J
8	6.7	(6.3)J	6.3	5.4F	5.0	4.9	5.5	6.4	6.7	7.3	7.3	7.6	7.4	7.5	7.4	7.5	7.9	7.8	(7.7)J	(7.9)JS	(8.1)J	(8.1)J	7.9	(8.2)JS
9	(8.0)JS	(7.4)JF	6.8	6.0	5.5F	5.1	5.8	6.2	6.5	7.0	7.6	7.7	7.7	7.7	7.8	8.0	8.1	8.0	7.6	(7.6)JS	(7.5)JS	7.9	(8.0)JS	7.6
10	(7.1)JS	(6.9)JS	(6.8)J	(6.3)J	5.5	5.4	5.7	6.3	7.1	7.3	7.1S	7.5	7.6	(7.6)J	7.5	7.5	7.8	7.8	(8.0)JS	8.1	(8.0)JP	7.9	(7.6)J	7.1
11	6.9	(6.8)JS	(6.5)JS	6.2	(5.8)JS	5.8	6.5	7.1	7.6	8.2	8.2	8.1	8.0	8.3	8.2	8.1	8.3	8.8	8.7	8.3	[8.5]A	8.7	(8.6)J	P(7.9)JS
12	(7.6)JS	7.0	[7.6]A	(5.9)J	5.4	5.9	6.2	6.3	6.5	(6.1)S	6.5S	[6.6]S	6.7	(6.9)S	(7.1)S	7.2	(7.1)S	(7.4)JS	7.5S	7.7	(8.3)JS	(8.2)J	7.9	(7.4)J
13	7.0	6.0	(5.7)SP	(5.7)J	5.1F	5.1	5.4S	[5.4]C	5.4	5.7	5.9	6.0	6.7	6.6	(6.5)J	6.9	6.9S	7.4	7.3	(7.5)JS	(7.3)S	(7.1)J	(6.8)JS	6.5
14	(6.6)J	(6.2)J	(5.9)J	5.6	5.2FS	5.4	5.9	6.2	(6.7)J	7.0	7.2	7.3	7.6	7.9	8.3	8.9	9.0	9.0	8.6	8.6	8.6	8.2S	(7.9)JS	7.8
15	7.9	7.0	7.1	6.5	(6.1)JS	6.4	7.1	7.7	8.0F	9.2H	8.8	8.6	8.5	8.6	8.6	8.8	8.9	8.9	8.9S	8.6	8.8	8.7	8.2	(7.6)SP
16	7.0	6.5	6.2	6.0F	5.6	5.9	7.3	8.4	8.8	9.0	9.0	9.0	9.0	8.8	8.3	8.2	8.1	8.6	8.7	8.9	9.0	8.4	8.1	7.9
17	7.7	7.3	7.3	6.7F	5.9	5.9	6.8	7.3	7.6	7.8	7.6	7.8	8.1	8.1	8.1	7.9	8.0	7.5	7.9	7.5	7.9	(7.4)J	6.9	(7.0)J
18	7.4	(7.1)JF	6.5	5.6	5.0	4.8	5.0	(5.7)J	6.3	7.0	6.8	7.3	7.2	7.5	7.1	7.1	7.4	8.0	8.3	8.7	8.7	8.5	7.9	7.2
19	6.9	(6.5)J	5.9	5.5	4.7F	4.4K	4.9K	4.8K	5.3K	5.4K	GK	GK	GK	5.6K	5.4K	GK	5.9K	(5.9)JK	5.9K	5.9K	6.2K	6.7K	6.8	(6.2)J
20	5.7	5.3	4.7	4.2	3.8	4.2	5.0	5.5H	(6.0)J	6.9	6.9	7.4	7.4	7.2	7.3	7.6	7.7	7.5	8.0	7.1	7.0	6.9	6.7	(6.5)J
21	(5.9)JF	(6.2)J	5.4	5.1	4.9	4.8	5.0	5.5	5.8	(6.2)S	(6.4)J	6.2	6.2	6.4	6.4	6.9	6.7	7.3	6.8	7.1	7.4	7.2	6.8	6.4
22	(6.3)J	6.2	5.5	5.1	4.9S	4.9	5.2	5.6	5.7K	5.9K	5.5K	5.5K	5.7K	5.5K	5.6K	5.9K	5.7K	6.0K	6.3K	6.0K	5.9K	(6.6)JK	(6.8)JS	(6.4)JF
23	S(6.2)JF	(5.8)F	5.1F	4.8F	4.5F	4.9	5.7	(6.5)J	7.1	7.0	7.3	7.1	7.6	7.7	7.5	7.5	7.7	7.7	7.6	7.7	7.5	7.6	7.7	(7.4)S
24	6.7	(6.2)J	(6.5)J	5.9	5.4	5.4	5.8	6.0	(6.4)S	[6.4]C	(6.3)J	(6.5)J	G	(6.4)J	(6.5)J	G	(6.4)JS	(6.9)JS	6.9	7.1	7.1	7.0	6.8	(6.5)J
25	(6.6)J	(6.4)J	5.9	5.5	4.9	5.5	6.5	7.4	8.0	8.5	8.6V	8.7	8.4	(8.5)J	8.4	8.5	8.5	8.9	9.0	8.6	8.7	(9.0)S	[9.2]SC	(9.3)JS
26	[8.2]SC	(7.0)J	(6.3)JS	5.7	(5.4)J	4.8	5.3	5.4	5.9K	GK	5.7K	6.0K	5.4K	6.3SK	5.9K	[6.0]AK	(6.1)JK	6.2K	6.5K	(6.6)J	(6.8)J	(7.5)J	(7.2)J	6.9
27	(6.7)J	6.1	(5.6)J	5.4	5.2	4.9	5.3	5.9K	5.6K	6.0K	GK	GK	GK	5.9K	GK	AK	AK	6.3K	6.5K	6.5K	6.7	7.2	7.2	7.0
28	6.4	6.2	5.8	5.4	5.0	5.5	6.9	7.7	8.7	9.0	9.2	•9.3	8.8	8.8	8.8	8.5	8.8	8.6	8.5	8.4	(8.1)J	(8.1)J	8.2	(7.9)J
29	(7.0)JF	7.2	(7.6)JS	(7.3)J	(5.9)A	5.3	(6.1)J	(6.8)J	(6.9)J	(7.1)J	7.7	7.8	7.7	7.7	7.7	8.1	8.1	7.9	7.9	(8.0)JS	8.2	8.3	8.2	7.6
30	7.4	7.1	(6.8)J	(6.1)J	5.7	5.5	6.9	7.9	8.7	C	C	(8.5)J	8.5	7.9	8.0	[8.1]C	8.2	8.2	8.3	(7.9)J	(7.7)J	7.9	7.9	7.4S
31																								
Median	6.8	6.4	6.2	5.7	5.4	5.4	6.0	6.4	6.7	7.0	7.2	7.4	7.6	7.6	7.4	7.5	7.8	7.8	7.8	7.7	7.8	7.8	7.6	7.2
Count	30	30	30	30	30	30	30	30	30	29	29	30	30	30	30	29	29	30	30	30	30	30	30	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 58

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

f°F2 (Characteristic), Mc (Unit), June (Month), 1948

Observed at Washington, D.C.

Lat 39.0°N, Long 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: K. L. W., M. C. E.

Day	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
1	(6.3)JS	5.0F	3.6F	3.0	4.0FV	4.7F	5.2	5.5F	6.8	[7.1]C	7.4	C	C	C	G	7.0	7.1	7.2	7.3	7.2	7.2	(7.1)J	(6.9)S	(6.6)JS
2	5.9	5.6	5.3	5.3F	5.5	6.1S	7.5	(7.8)J	8.8	9.0	9.5	9.2	9.0	9.2	8.9	8.8	8.6	8.7	8.6	8.8	(8.8)S	S C	(8.2)J	(7.8)JP
3	(7.4)JP	(6.8)J	6.3	[6.0]SC	5.6	5.9	(6.2)B	[6.6]A	(6.8)J	(7.6)	(6.4)J	(6.4)J	G	6.8	(6.8)S	[6.9]C	7.0	6.9	7.0	(6.9)J	7.0	7.1	7.0	6.8
4	(6.5)J	(6.2)J	5.8	5.3	5.2	5.9S	6.6	7.3	C	C	C	8.0	8.1	8.5	C	C	8.2	8.5	8.4	8.2	8.0	8.1	7.4	7.4
5	7.0	7.0	6.6	6.5	6.3	6.6	7.1	7.4	7.4	7.7	(7.3)C	7.3	7.4	7.5	7.3	7.0	6.9	7.2	7.2	(7.4)J	7.6	7.5	7.0	6.9
6	6.7	6.0	5.8	5.9	5.7	(6.4)J	6.5	G	G	(6.2)NK	(6.1)SK	GK	K(6.5)JS	6.4K	(6.3)JK	(6.6)JK	6.7K	6.8K	7.0	7.2	6.9	(7.0)S	(7.1)JS	(6.8)JS
7	6.7	6.4	6.0	5.8	(5.8)J	(6.7)JS	7.6	7.7V	8.1	8.9	9.4	9.0	8.7	8.7	8.5	8.3	8.3	8.5	9.0	8.9	8.0	7.2	6.9	6.8
8	(6.5)J	(6.2)J	5.7	5.0	4.9	5.4	5.9	6.7	6.9	7.1	7.3	7.6	7.3	(7.4)J	7.5	7.6	7.8	(7.8)J	(7.8)JS	(8.0)J	(8.2)J	8.0	(8.0)J	(8.1)J
9	7.5F	(7.0)JS	(6.4)J	(5.9)JS	5.2	5.4	5.7	6.4	6.6	7.6	7.5	7.8	7.7	7.8	7.8	8.2	8.0	7.6	7.7	(7.4)JS	(7.9)JS	8.0	(7.9)JS	7.4
10	(6.9)J	(7.3)S	(6.5)JS	5.5	5.4F	5.6	6.1	6.8	7.4	7.3	(7.4)J	7.5	7.8	7.7	7.5	7.7	7.7	(7.9)J	8.0	(8.1)SP	(8.0)JP	(7.7)JS	[7.4]S	7.1
11	6.8	(6.6)JS	(6.5)JS	6.0	5.7	(6.3)J	6.8	7.5	7.8	(8.1)P	8.0	8.2	8.2	8.3	8.3	8.1	8.5	(8.5)S	8.6	(8.0)JS	8.7	(8.5)JS	(8.0)JS	(7.8)JS
12	(7.4)S	(6.7)J	6.1	5.8	5.9	6.2	6.2	6.3	6.7	(6.5)JS	(6.5)J	6.8	6.6	(6.9)S	(7.2)S	(7.3)S	(7.2)JS	7.3	7.5	(7.7)JS	(8.2)JS	7.8	7.8	(7.5)J
13	(6.5)S	(6.4)JS	6.2	5.5	5.0	5.4	5.4	5.5	5.8	G	6.0	6.4	(6.5)B	6.6	6.7	(7.0)S	7.3	7.4	7.5	(7.4)JS	(7.0)J	(6.9)J	(6.8)J	(6.6)J
14	6.4	(6.1)JA	5.7	(5.3)B	5.3	(5.4)B	6.8	(6.7)F	(6.9)J	6.9	7.1	7.3	7.6	8.0	8.6	8.9	9.0	8.9	8.7	8.7	8.6	(8.3)JS	7.9	7.9
15	(7.7)S	(6.9)JP	6.7	6.3F	6.3F	(6.7)JS	7.7	8.3	9.2	8.9	8.7	8.6	8.7	(8.5)JS	8.8	8.8	8.9	8.8	8.6	8.8	8.8	8.7	8.0S	7.3
16	6.6	6.4	6.1	5.5	5.5	[6.4]S	8.4	8.8	8.9	[9.0]C	9.1	9.2	8.9	8.7	8.2	8.1	8.5	8.8	8.9	(9.0)P	8.9	8.2	7.9	7.8
17	7.2	7.3	6.6	6.2	5.9	6.4	(6.9)J	7.5	(7.1)SP	7.6	7.8	7.7	8.1	7.8	8.0	8.1	7.5	7.6	7.6	7.6	7.8	7.2	7.2	[7.2]C
18	7.2	7.0	(5.9)J	5.5	4.9	4.9	5.6	5.8	7.0	6.5	7.2	7.2	7.4	7.3	7.1	7.3	7.8	(7.4)J	8.3	8.7	(8.5)C	(9.9)J	(7.3)J	(7.1)J
19	6.8	6.4	5.5	4.9	4.2	(4.7)JK	4.8K	GK	GK	5.3K	GK	GK	GK	GK	(5.7)SK	(5.7)SK	5.9K	6.0K	6.3K	6.2K	6.3K	6.9K	6.7	6.2
20	5.7	4.9	4.3	4.1	3.7	4.7	5.3	6.2	6.9	(7.3)J	6.8	7.5	7.2	7.4	7.4	7.6	7.5	7.9	7.7	7.4	7.0	6.6	(6.4)C	(6.3)J
21	6.2	(6.7)J	5.3	5.4	4.9	5.1	5.4	5.9	5.9	6.4	6.1	6.3	6.3	6.4	6.6	7.1	7.2	6.9	6.9	7.5	(7.5)S	7.2	6.7	(6.2)J
22	6.1	(6.8)J	5.4	5.0S	4.8	(5.5)S	5.4F	5.5	5.5K	5.7K	5.4K	GK	5.7K	5.5K	5.3K	5.6K	5.9K	6.2K	6.1K	K(6.0)JS	K(6.2)JS	K(6.7)JS	(6.6)JS	(6.2)JF
23	6.5	(5.2)F	(5.2)JF	4.8F	4.5F	5.2F	6.1	6.8	7.1	7.1	7.2	7.3	7.6	7.6	7.6	7.4	7.8	7.6	7.5	7.7	7.5	7.8	7.7	(7.1)S
24	6.5	6.5	6.4	5.5	5.0	5.8	6.1	6.3	6.4S	[6.4]C	6.4	(6.6)J	(6.4)J	G	(6.5)S	(6.3)S	(6.5)JS	7.0	6.9	7.3	7.2	[7.0]S	(6.6)JS	(6.6)J
25	6.4	6.1	5.8	(5.4)F	4.9	6.1	7.1	(7.8)J	8.4	8.5	8.3	8.7	8.5	8.5	8.5	8.7	8.9	9.0	8.9	(8.6)J	[8.9]S	(8.9)SC	8.7	(8.5)S
26	(6.7)JS	(6.5)JS	6.2	5.9	4.9	4.9	5.6	(5.8)J	5.8K	5.9K	5.3K	GK	(6.4)JK	6.0K	6.2K	6.0K	GK	(6.4)JK	6.4K	(6.8)J	(7.2)J	7.3	(7.0)J	[6.6]C
27	6.4	(5.8)JS	5.6	5.3	4.9	5.2	5.8	6.2K	6.0K	6.3K	GK	GK	GK	5.9K	6.1K	[6.1]AK	K(6.1)AS	6.3K	(6.8)JK	6.6K	7.1	(7.1)J	(7.0)JS	(6.5)J
28	6.2	6.1	5.5	5.1	5.0	6.4	7.7	8.5	8.9	9.3	9.3	8.6	8.9	8.7	8.6	8.5	8.7	8.6	8.6	(8.2)J	(8.1)J	(8.2)J	(7.9)J	(7.6)J
29	7.2	(7.0)J	(6.2)J	(6.0)J	(5.8)J	5.5	(6.1)J	(6.8)J	(7.0)J	(7.6)J	8.0	7.7	(7.6)J	7.6	(7.8)J	8.1	8.1	7.9	7.7	7.9	(8.1)J	(8.1)J	(7.9)JS	7.6
30	7.4	7.0	(6.5)J	5.8	5.7	6.3	7.3	8.4	C	C	C	8.6	C	C	8.3	J(8.0)SC	8.1	8.3	(7.4)J	(7.4)J	7.4	(7.7)J	7.6	(7.6)JS
31																								
Median	6.6	(6.4)	6.0	5.5	5.2	5.7	6.2	6.7	6.9	7.2	7.2	7.5	7.5	7.6	7.5	7.6	7.8	7.7	7.7	7.7	7.9	7.7	(7.4)	(7.1)
Count	30	30	30	30	30	30	30	30	28	28	28	29	28	28	29	29	30	30	30	30	30	29	30	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 59

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adopted June 1946

h'F1 (Characteristic), Km (Unit), June (Month), 1948

Observed at Washington, D. C.

Lat. 39.0°N, Long 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: M. C. E., G. G. H.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							280	230	210	(200)A	230H	210	200	(220)	200	C	220	220	230					
2							Q	220	220	220	200	200	(200)S	220	220	220	200	230	Q					
3							Q	230	200	200H	C	(210)	200H	200	200	220H	220H	200	210					
4							Q	220	200	200	190	190H	200H	200	200	C	210	230H	Q					
5							230H	200	200H	240	210	230H	220	200	230	A	A	240	200H					
6							Q	220	210	200K	A K	A K	240K	210K	210K	200K	220K	(230)AK	(230)A					
7							Q	A	220H	A	200	190	200	200	200S	200	200	200	S					
8							250	230H	230	210	A	(220)A	190	190H	230	200	(230)A	230	240					
9							240	220H	(230)A	200	200A	200	200	(210)A	200	(250)A	210H	220	Q					
10							230H	230	200	230H	230	230	230	210	(200)S	200	200	230H	(250)A					
11							Q	230	200	(200)A	A	A	A	(240)A	A	200	200H	200H	Q					
12							230	220	200	200	(230)H	S	A	(220)S	(240)A	220	210	210	230					
13							Q	C	200	220	200H	200	240	230	200	200	220	240	(250)A					
14							Q	A	A	A	(200)A	A	A	A	A	(240)A	A	A	220					
15							Q	Q	200	200	200	(170)	190	180	190	(200)H	200	210	Q					
16							Q	200H	A	210H	200	180	(230)S	(200)H	200	200	200	A	Q					
17							Q	A	200H	190	A	A	200H	190	200	200	210	210	210					
18						(240)A	240H	220	220	A	(230)A	200	230	200	200	A	(230)A	240	(240)A					
19						290K	250K	220HK	200K	200K	200K	A K	200K	190HK	200HK	210K	(200)SK	220K	A K					
20							Q	A H	220	200	200	200	200	200H	210H	220	220	230	230					
21							Q	210	A	A	200	180H	(200)H	200	(210)H	230	230	230	230					
22							Q	200	210K	210K	200HK	A K	(200)AK	200K	200K	(220)SK	200K	210K	220K					
23							Q	230	230	220	200	200	180	A	A	A	(220)AS	230	Q					
24							Q	210	210	C	200	180H	200	200H	220H	A	A	220	(250)A					
25							Q	220	200H	200	A	A	A	A	A	(260)A	A	A	A					
26							(250)A	210	210K	230K	A K	220K	A K	A K	A K	A K	200K	230HK	230HK					
27							Q	200K	200K	200K	(210)AK	220K	190K	A K	200K	A K	A K	210HK	220K					
28							Q	Q	220	210	A	A	A	(180)A	200	200	(240)A	A	A					
29							Q	210	(200)A	210H	200	220H	180H	200	(240)B	200	230H	(240)A	A					
30							240	(230)A	200	C	C	200	C	200	200	C	200	220	Q					
31																								
Median							240	220	200	200	200	200	200	200	200	200	210	225	230					
Count						2	10	23	27	24	21	21	23	25	25	21	25	26	17					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U S GOVERNMENT PRINTING OFFICE 1946 O - 702519

Form adopted June 1946

TABLE 60

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

f°F1 (Characteristic), Mc (Unit), June (Month), 1948

Observed at Washington, D.C.

Lat 39.0°N, Long 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: M. C. E., K. L. W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							3.7 F	4.7	4.9	5.5 V	5.7 H	(5.4) S	5.4	5.7	5.3	[5.3] C	5.3	L	L					
2							Q	L	L	L	5.7	5.8	(5.9) S	5.5	(5.5) H	5.6 V	L H	L H	Q					
3							Q	(4.8)	5.0	5.1	[5.2] C	5.2	5.5	[5.4] H	(5.3) H	5.3 H	5.0	L	L					
4							Q	L	L	L H	S C	5.5	5.7	5.6	5.7	[5.6] C	5.4	L	Q					
5							L H	L	5.2 H	5.6	5.7	(5.7) C	5.5	5.4	(5.8) P	5.5	5.5	5.0	L					
6							Q	L	4.9	5.1 K	5.7 K	5.5 K	5.5 K	5.5 K	5.5 K	5.2 V K	5.1 K	L K	L					
7							Q	L	L	A	5.9	L	L	5.7	5.9 S	5.6	[5.6] L H	5.6 H	L					
8							L	4.9 Y	5.3	5.5	5.5	[5.6] S	5.7	5.6 H	5.7	5.4	5.3	L	L					
9							4.3	4.9	5.3	5.5	5.8	5.7	5.6	(5.8) S	5.6	5.6	L H	L H	Q					
10							5.0	4.7 H S	[5.0] L	5.3	5.6	5.5	5.7	5.6	5.7	5.7	5.6	L	L					
11							Q	L	L	5.4	A	A	A	5.8	5.6	5.2 H	L H	L	Q					
12							L	4.8	5.0 H	5.3	5.4	[5.3] S	(5.2) A	5.4	5.4 H	5.4 H	5.3 S	(5.1) S	L					
13							Q	C	4.9 H	5.0	5.1	5.2	5.3	5.4	5.4	5.2	5.4	L	L					
14							Q	L	A	A	5.5	5.7	[5.6] N H	(5.4) A	[5.4] A	5.5	L	A	L H					
15							Q	Q	L H	5.2 H	[5.4] N H	5.6 H	5.3	5.5	5.5 H	5.5	L	L H	Q					
16							Q	L	A	5.5	5.3	5.4	5.6	5.7	5.8	5.2 H	L	L A	Q					
17							Q	A	4.8	4.7 H	A	A	5.6	5.4	5.4	5.3	4.9 F	L H	L					
18						L	4.2	[4.6] L	4.9	5.0	5.3	5.2	5.5	5.5	5.5	(5.3) A	5.5	L	L					
19						L K	3.9 K	4.3 K	4.6 K	4.9 K	4.8 H K	4.9 K	5.1 K	5.0 K	5.1 K	5.0 K	(4.9) S K	(4.6) S K	L K					
20							Q	4.7	5.5	5.1	5.6	5.5	5.3	5.5	5.4 H	5.1	5.2	L H	L					
21							Q	4.6	[5.0] A	5.3	4.9	5.3 H	5.3	5.4	5.2	5.3	5.0	L	L					
22							Q	4.6	4.7 K	4.9 K	5.0 K	5.1 K	4.9 K	5.3 K	5.1 K	5.0 K	4.9 H K	5.0 H F	4.3 F K					
23							Q	L F	L	5.5	5.5	5.5	N H	A	5.8	5.5	5.3	L	Q					
24							Q	4.5	4.9	[5.0] C	5.2	5.4	5.4	5.3	5.3 H	[5.2] A	(5.1) S	(4.8) S	L					
25							Q	L	L	L	A	A	A	A	(5.4) A	5.5	[5.2] A	5.0	A					
26							4.0	4.5	4.9 K	5.2 K	[5.3] A K	5.4 K	[5.4] A K	5.5 K	5.4 K	[5.0] A K	4.7 H K	5.1 K	L K					
27							Q	L K	5.1 H K	5.1 K	(5.4) S K	5.3 K	(5.4) S K	[5.4] S K	5.3 S K	A K	A K	4.8 K	(4.8) A K					
28							Q	Q	L	5.1	A	A	A	(5.6) A	5.7	5.5	5.6	A	A					
29							Q	4.9	5.2 H	5.3 H	5.6	5.6	5.9	5.6	(5.6) B	5.3	5.7	L	L					
30							L	L	5.4	C	C	5.9	[5.8] C	(5.8) C	(5.5) S C	[5.4] C	(5.3) H S	(5.5) C	Q					
31																								
Median							4.1	4.7	5.0	5.2	5.4	5.5	5.5	5.5	5.5	5.3	5.3	5.0						
Count							6	14	20	24	24	25	25	28	30	29	23	10	2					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U.S. GOVERNMENT PRINTING OFFICE 1945 O - 702518

Form adopted June 1946

TABLE 61

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

h'E (Characteristic), Km (Unit), June (Month), 1948

Observed at Washington, D.C.

Lat 39.0°N, Long 77.5W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: K. L. W., M. J. H.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						160	110	100	100	100	100	100	100	100	100	C	100	100	100	100				
2						120	110	100	100	100	100	100	100	100	100	A	100	100	110	$(130)^{S}$				
3						A	110	110	100	100	100	100	100	100	100	100	100	100	100	100				
4						120	110	100	100	100	100	100	100	100	100	C	100	100	100	120				
5						110	100	100	100	100	100	100	100	100	100	100	100	100	100	100				
6						100	100	100	100	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100	100				
7							100	100	100	100	100	100	100	100	100	100	100	100	100	100				
8						A	110	100	100	100	100	100	100	100	B	100	100	100	100	120				
9							100	100	100	100	100	100	100	100	100	100	100	100	100	130				
10							100	100	100	100	100	100	100	100	100	100	100	100	100	110				
11							100	100	100	100	100	100	100	100	100	100	100	100	100	100				
12						100	A	100	100	100	100	100	A	100	100	100	100	100	100	120				
13						100	100	C	100	100	100	100	100	100	100	100	100	100	100	A				
14							100	100	100	100	100	100	100	100	100	100	100	100	100	110				
15						120	100	100	100	100	100	100	100	100	100	100	100	100	100	A				
16							100	100	100	100	100	100	100	100	100	100	100	100	100	A				
17						A	100	100	100	100	100	A	A	100	100	100	100	100	100	A				
18							100	100	100	100	100	100	100	100	100	100	100	100	100	A				
19							100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	110^{K}				
20						100	100	100	100	100	100	100	100	100	100	100	100	100	100	A				
21							100	100	100	100	100	100	100	100	100	100	100	100	100	110				
22							100	100	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	110^{K}				
23						130	100	100	100	100	100	100	100	100	100	100	100	100	100	110				
24						A	100	100	100	C	100	100	100	100	100	100	100	100	100	A				
25						A	100	100	100	100	100	100	100	100	100	100	A	100	100	100				
26						A	100	100	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	110				
27							100	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	110^{K}				
28						A	100	100	100	100	100	100	100	100	100	100	100	100	100	100				
29							100	100	100	100	100	100	100	100	100	100	100	100	110	100				
30						100	100	100	100	C	C	100	100	100	100	C	100	100	100	100				
31																								
Median						110	100	100	100	100	100	100	100	100	100	100	100	100	100	110				
Count						11	29	29	30	28	29	29	28	30	29	26	29	30	30	23				

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702119

TABLE 62

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

f°E (Characteristic), Mc (Unit), June (Month), 1948

Observed at Washington, D. C.

Lat. 39.0°N, Long 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: M. J. H., K. L. W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						1.9 H	2.5	3.1	(2.9) A	[3.4] A	3.9	(3.9) S	3.9	[3.9] B	3.9	[3.8] C	3.7	3.2	2.9 H	A				
2						1.7	2.5	3.1	3.5	3.5	3.9	(3.9) A	C	S C	A	A	(3.6) S	3.2	2.8	(2.1) F				
3						A	A	(3.2) A	3.2	[3.6] A	4.0	4.1	3.8	3.9	4.0	4.0 H	3.7 H	(3.3) S	2.7 H	A				
4						1.8 H	2.6	3.2	3.5	3.8	(4.0) C	(4.1) B	(3.9) H	(3.9) S	(3.9) A	[3.8] C	3.7 H	(3.3) A	2.5 H	(2.1) A				
5						1.9 H	2.5 H	(3.1) A	(3.5) H	3.7	(3.7) A	[3.8] B	4.0	(3.9) B	4.1	3.9	3.7	3.2	2.8	A				
6						1.8 H	[2.4] A	3.1 H	[3.5] A	3.9 K	3.9 K	(4.0) AK	A K	A K	A K	3.8 K	[3.4] AK	(3.1) AK	A	A				
7							(2.5) A	(2.9) AS	3.5	3.7	(3.9) SC	4.1	4.0	4.1	(4.0) S	A	A	3.3 F	2.8 F	(2.0) F				
8						1.9	2.5 H	3.1	3.6	3.8	3.9	4.0	4.1	A	B	3.8	3.6	3.3	2.9	2.1 H				
9							2.5 H	3.1	3.5	3.7	3.9	4.0	4.0	3.8	(3.5) A	[3.6] A	3.7	3.3	2.9	2.1				
10							2.8	3.1	3.4	3.5	3.9	3.9 H	[3.9] H	3.9	3.9 S	[3.8] A	3.6	3.3	2.9	(1.8) A				
11							(2.5) FS	(3.0) F	3.3 F	3.7	(3.7) A	(3.7) A	[3.6] A	3.5	[3.6] A	3.7	3.7	3.3	2.8	A				
12						1.9	[2.5] A	3.1 F	3.3	3.8 F	4.0	A	A	(3.9) S	3.9	3.8	3.6 F	3.3	2.8	2.1				
13						1.5	2.4	C	A	(3.8) S	(3.6) S	4.1	4.0	4.1	3.9	3.9	3.7	3.3	2.7	A				
14							2.5	3.0 F	[3.3] A	3.6	(3.7) A	[3.8] A	4.0	4.0	3.9	3.7	3.5	3.2	2.8	A				
15						1.9 H	2.5	3.0 H	3.4	3.7	3.9 F	3.9 F	3.9	3.9	3.9	3.7	3.5	3.2	2.6	A				
16							(2.1) A	2.8 F	[3.3] A	3.8	3.8	4.0	4.1	3.9	3.9	(3.8) A	3.5 H	3.1	(2.6) A	A				
17						A	A	A	3.4	A	A	A	A	A	3.9	3.9 F	[3.7] A	(3.2) A	2.8	A				
18							(2.4) H	3.1 H	3.3	3.5	A	A	A	(3.9) A	3.9	3.8	3.5	3.3	2.7	A				
19							2.5 K	3.0 K	(3.3) AK	3.7 K	3.8 K	[3.8] AK	(3.7) AK	A K	A K	A K	A K	A SK	A K	A K				
20						2.0	(2.4) A	[3.0] A	3.7 F	3.7	3.7 H	3.9	3.9	3.5	3.5	3.6	3.7	3.4	2.7	A				
21							2.4	2.9	3.3	3.4	[3.6] A	3.9 H	4.1	3.9 H	4.0	3.9 F	3.7	3.3	2.8	A				
22							(2.3) A	3.0 F	3.3 K	(3.6) AK	3.9 K	(3.9) AK	[4.0] AK	4.1 K	3.9 K	(3.8) AK	3.7 K	3.3 K	2.8 K	(2.0) AK				
23						(1.9) A	2.5	3.1 F	3.6	3.7	3.9	3.9	3.9	(3.7) A	(3.5) A	A	A	3.3	2.7	2.1				
24						1.9 H	(2.5) AF	[3.0] A	(3.4) A	[3.6] C	3.9	3.9	4.0	4.1	4.1	3.9	(3.8) S	3.3	A	A				
25						A	A	(3.2) A	[3.6] A	3.9	4.0	4.1	3.8	(3.8) A	3.5	A	A	A	A	A				
26						A	A	A	A K	3.9 K	(3.9) AK	4.1 K	4.2 K	4.0 K	(4.0) AK	3.8 K	3.7 HK	3.3 K	3.1 K	2.0				
27							(2.4) A	[3.1] AK	3.8 K	3.8 K	3.8 K	3.7 K	3.7 K	3.7 K	(3.3) AK	3.7 K	3.6 K	3.3 K	2.8 K	2.0 K				
28						A	2.5 H	[3.0] A	3.6 H	3.9	4.0	(4.0) A	4.0	A	A	(3.8) S	3.6	(3.1) A	A	A				
29							A	(2.9) A	3.2	[3.2] A	3.1	[3.5] A	3.9	4.0	[4.0] C	3.9	3.7	[3.0] A	3.0	A				
30						1.9	2.3	(2.9) A	A	C	C	A	C	3.9	S	C	3.7	3.3	(2.9) S	A				
31																								
Median						1.9	2.5	3.1	3.4	3.7	3.9	3.9	4.0	3.9	3.9	3.8	3.7	3.3	2.8	2.1				
Count						13	25	27	27	28	27	26	24	24	24	24	24	28	25	11				

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 63

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

IONOSPHERIC DATA

E_s (Characteristic), Mc,Km (Unit), June (Month), 1948

Observed at Washington, D. C.

Lat 39.0°N, Long 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: F. H. L., J. T. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									4.2/100	4.6/100						C			3.7/110	4.2/100	2.9/120			
2	3.0/100					3.1/130			4.0/110	5.6/100		4.1/110			3.9/120	3.8/110			3.1/130	1.9/100				
3			3.1/110			1.9/120	3.8/120	4.8/130	4.1/110	5.0/110										2.9/120	4.0/100		3.0/110	
4							3.7/120			4.3/120			4.1/100		4.2/110	C		5.1/130	5.3/110	3.3/120	3.9/110	2.9/110	1.9/130	2.75/100
5	2.3/130	4.9/110	3.4/110	1.5/110	2.5/100			4.9/110	4.3/100	4.3/110	4.3/100					5.7/120	5.8/110	4.9/120	3.6/110	3.9/110	5.4/100	3.9/100	2.9/110	
6	2.6/120	2.3/130	3.5/120	2.6/120	2.3/110		4.5/110	4.8/110	5.0/100	4.2/120	4.5/100	5.0/110	4.3/100	4.8/100	4.5/110		4.2/100	4.5/110	4.8/100	2.1/100	1.9/110	2.7/110	1.9/120	3.2/100
7	3.9/100	3.8/100	3.5/100	3.7/100	1.9/110	2.9/120	3.1/110	5.6/110	3.8/100	6.2/100					4.2/100	4.6/100	4.2/100				4.2/100	3.3/110	3.1/110	
8	1.9/110	2.9/130		1.9/120	3.1/100	1.9/100		3.9/120		5.2/120	5.8/100	5.7/100		4.3/100			4.3/110	4.3/100			1.8/120	3.1/110		
9								3.8/110	5.1/120	5.0/120			4.6/100	5.8/100	4.2/100	5.8/100				2.4/130		3.1/100	3.4/100	2.7/100
10	3.3/100	4.4/100	2.6/100	3.2/100			3.4/110	12.0/110	4.8/110	4.8/100	5.1/110	4.6/100	5.8/110	5.4/120	5.6/110	8.2/110	5.6/100	3.7/110	4.3/110	5.0/110	5.0/100	3.8/100	3.9/100	3.0/100
11	5.4/100	3.8/100	3.8/100	5.3F/100	4.1F/100	3.9F/100	3.8FS/100	4.9/110	4.1/100	4.3/100	6.7/100	7.2/100	6.9/100	5.6/100	5.4/100			5.2/130	5.8/110	5.4/100	7.8/100	5.3/100	3.8/100	5.8/100
12	3.8/100	5.7/100	5.1/100		3.7/100	4.6/100	5.8/100	3.9/100	4.7/110			4.7/100	5.0/100		5.8/120	4.5/120								
13						2.0/110	3.7/120	C	9.0/100	5.8/100									4.1/100	3.8/110	2.0/110	9.0/100	3.8/100	5.8/100
14	4.9/100	3.8/120	6.6/120	3.9/130		3.6/120	3.8/110	5.0/100	5.4/100	5.7/100	7.2/100	5.8/100	5.5/130	6.0/110	10.0/100	5.8/110	5.8/120	5.5/110	3.8/120	4.3/110	3.6/100	4.3/100	3.3/110	3.2/110
15	3.4/110	3.5/110		1.2/130	2.4/120		3.6/120	4.0/100		4.5/100		4.2/100		4.2/130				3.8/130	5.7/100	3.8/100				
16			3.1/100	3.8/100	3.9/100	2.0/110	4.5/100	4.2/100	5.0/100	4.2/110						4.6/110	5.7/100	4.8/110	4.9/100	5.9/100	2.8/100	4.5/100	5.7/100	3.2/100
17	3.1/100	3.8/100	3.4/100	3.0/100	3.0/100	3.1/110	4.2/110	4.8/110	4.2/100	5.4/100	7.6/100	7.0/100	4.8/100	4.2/100	4.7/110	5.8/100	5.3/110	3.5/110		3.1/120	3.1/100	3.8/100	4.9/100	3.6/100
18	3.2/100		3.2/100	2.7/110	2.4/110	3.2/100	4.5/100	3.8/100	5.2/110	5.7/100	5.4/100	5.0/100	5.4/100	4.2/110		5.6/110	6.0/100	4.6/100	4.1/100	5.5/100	2.8/110			
19					3.2/110	2.9/100	5.2/120		4.8/100			5.4/100	4.0/100	4.2/100	4.3/120	4.6/110	4.2/100	3.4/100	4.3/110	3.2/110	3.7/100	3.8/100	3.4/100	
20							3.5/110	3.8/100			4.3/110	4.3/110		4.0/110	3.8/110				4.3/100	8.8/120			2.4/130	3.0/120
21		2.4/130	3.5/110	3.2/100		2.0/100	3.7/100	4.3/100	5.6/100	5.6/100	3.8/100				4.0/100			4.0/110	4.0/110	3.3/120				3.5/100
22				2.8/100	2.4/100	2.8/100	3.6/110	3.8/100	5.5/110	4.9/110	5.0/110	5.6/100	4.6/100			4.3/100				3.7/120	3.8/110	3.2/100		
23				3.6/100	3.6/100	3.5/100	3.5/120			5.2/110	5.3/110	5.1/110	4.2/110	6.0/100	5.7/100	5.3/100	5.0/100	3.8/110	3.6/120	3.4/130	5.6/100	4.7/100	4.1/100	2.3/100
24	3.0/100	3.1/100				3.1/100	4.7/100	3.8/100	3.6/100		5.2/120	4.8/110	4.6/110	4.4/120	4.5/120	9.6/100	5.5/110	5.4/110	4.8/100	5.5/100	3.3/100	3.2/100	4.6/100	5.5/100
25	2.5/100	2.4/100	3.4/100	3.1/110		2.0/100	5.5/100	4.2/110	3.9/110		5.9/100	9.5/100	9.0/100	7.7/100	5.7/100	5.7/100	6.0/100	5.5/100	5.9/100	4.7/100	4.4/100	2.4/110		
26				3.7/100	3.1/120	3.8/100	4.2/100	4.2/100	4.8/100		6.2/100	5.4/100	5.5/100	5.8/100	5.7/100	6.0/100	9.5/100	4.8/120		3.7/110	3.6/100	2.9/110	3.2/110	4.5/100
27	3.1/100	2.6/100	3.7/110	1.4/100		2.9/110	3.8/100	4.2/100	4.2/110	4.3/100	5.2/100	4.2/100	4.3/100	4.7/100	5.0/100	5.7/110	8.8/120	5.8/110	4.3/110	3.8/110	2.0/110	3.1/110	4.9/100	4.7/100
28	5.1/100	4.9/100	3.9/100	3.8/100	5.8/100	2.7/110	3.3/110	5.6/100	4.6/120	4.4/110	7.4/100	6.1/100	9.5/100	5.4/100	4.4/110		11.4/100	11.1/100	7.4/100	4.5/100	3.3/100	5.8/100	4.9/100	2.3/110
29	4.6/100	4.0/100	3.2/100	2.9/100	5.6/100	3.8/100	3.5/100	4.3/100	4.4/120	5.3/100	4.2/100	4.3/100	4.2/100				4.4/120	5.4/120	4.3/110	3.1/100	3.0/110	2.8/110		3.1/110
30		3.6/110		3.1/100	3.1/100		3.0/100	3.7/110	5.2/100	C	C	4.1/100	3.9/100	4.6/110		C		3.7/120	5.4/110	5.4/100	3.2/110			
31																								
Median	2.4	2.4	2.8	2.6	2.4	2.4	3.7	4.2	4.4	4.6	4.3	4.4	4.2	4.2	4.2	4.6	4.2	3.9	4.1	3.8	3.2	3.1	3.0	2.5
Count	30	30	30	30	30	30	30	29	30	29	29	30	30	30	30	27	30	30	30	30	30	30	30	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702512

TABLE 64

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

F2-M1500, ______ (Characteristic), (Unit) June (Month), 1948

Observed at Washington, D. C.

Lat 39.0°N, Long 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: N. N. M., J. L. K.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.8	$(1.6)^{F}_{P}$	1.5^{F}	1.6^{F}	1.6^{F}	1.8	1.7^{F}	1.7^{F}	$(1.6)^{J}$	1.6	1.6	$(1.6)^{g}$	G	1.7	1.6	C	$(1.7)^{S}$	1.8	1.8	1.8	1.7	1.8	1.8	S
2	$(1.8)^{J}$	1.7	${}^{P}(1.6)^{F}_{S}$	1.7	1.8	2.1	1.9	2.0	1.9	1.9	1.8	1.8	1.7	1.8	1.8	1.8	1.7	1.8	1.8	1.8	1.8	S^{C}	$(1.8)^{J}_{C}$	$(1.8)^{J}_{F}$
3	$(1.8)^{J}_{P}$	C	$(1.6)^{J}$	$(1.8)^{P}$	$(1.8)^{J}_{C}$	1.9	$(2.3)^{P}$	$(1.9)^{J}_{S}$	$(1.8)^{P}$	1.7	G	G	G	1.6	1.6	1.7	1.6	$(1.9)^{J}$	1.8	$(2.1)^{J}_{S}$	1.8	1.7	1.7	$(1.8)^{J}$
4	$(1.8)^{J}$	1.8	$(1.8)^{S}_{P}$	1.8^{V}	1.7	1.9	1.9	1.9	1.7	1.6	1.6	1.7	1.8	1.7	1.7	C	1.7	1.8	1.8	1.8	$(1.8)^{J}$	1.8	1.8	1.8
5	1.8	1.7	$(1.8)^{J}_{S}$	1.7	1.9	2.0	${}^{P}(2.1)^{J}_{S}$	1.8	1.8	1.7	1.6	1.6	1.5	1.8	1.5	1.7	1.6	1.8	1.8	1.8	1.8	1.8	1.8	$(1.7)^{J}$
6	$(1.7)^{J}$	1.7	1.6	1.6	1.7	1.9	$(2.0)^{J}$	1.8	1.9	G^{K}	G^{K}	1.5^{K}	1.5^{K}	$(1.6)^{J}_{K}$	$(1.6)^{S}_{K}$	1.6^{K}	1.7^{K}	1.6^{K}	1.7	1.9	1.9	1.7	1.7	1.7
7	1.7	1.8	1.7	1.8	1.8	2.0	1.9	2.1	1.8	1.7	1.6	1.8	1.6	1.8	1.7	1.7	1.7	1.7	1.9	1.8	1.9	1.8	1.7	$(1.7)^{J}$
8	1.8	$(1.7)^{J}$	1.7	1.8^{F}	1.8	1.9	1.8	1.8	1.6	1.8	1.7	1.7	1.6	1.8	1.6	1.7	1.7	1.6	$(1.8)^{J}$	$(1.9)^{J}_{S}$	$(1.8)^{J}$	$(1.8)^{J}$	1.7	$(1.8)^{J}_{S}$
9	$(1.8)^{J}_{S}$	$(1.9)^{J}_{F}$	1.8	1.7	1.7^{F}	1.8	1.8	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.8	1.7	1.9	1.8	$(1.9)^{J}_{S}$	$(1.8)^{J}_{S}$	1.8	$(1.8)^{J}_{S}$	1.8
10	$(1.7)^{J}_{S}$	$(1.7)^{J}_{S}$	$(1.9)^{J}$	$(1.8)^{J}$	1.8	2.0	1.9	1.8	1.7	1.8	1.7^{S}	1.8	1.7	$(1.8)^{J}$	1.7	1.7	1.7	1.8	$(1.9)^{J}_{S}$	1.9	$(2.0)^{J}_{P}$	1.9	$(1.9)^{J}$	1.7
11	1.8	$(1.7)^{J}_{S}$	$(1.8)^{J}_{S}$	1.8	$(1.8)^{J}_{S}$	1.9	1.9	2.1	2.0	1.8	1.8	1.9	1.8	1.9	1.8	1.8	1.7	1.8	1.8	1.9	A	1.8	$(1.8)^{J}$	${}^{P}(1.9)^{J}_{S}$
12	$(1.8)^{J}_{S}$	2.0	A	$(1.8)^{J}$	1.7	1.9	2.0	1.8	1.8	$(1.8)^{S}$	1.7^{S}	S	1.7	$(1.7)^{S}$	$(1.8)^{S}$	1.7	$(1.7)^{S}$	$(1.8)^{J}_{S}$	1.9^{S}	1.8	$(1.9)^{J}_{S}$	$(1.9)^{J}$	1.7	$(1.9)^{J}$
13	1.8	1.3	$(1.6)^{S}_{P}$	$(1.8)^{J}$	1.8^{F}	2.0	$(1.8)^{S}$	C	1.4	1.6	1.7	1.4	1.7	1.7	$(1.7)^{J}$	1.7	$(1.6)^{S}$	1.8	2.0	$(2.0)^{J}_{S}$	$(1.9)^{S}$	$(1.9)^{J}$	$(1.8)^{J}_{S}$	1.8
14	$(1.9)^{J}$	$(1.9)^{J}$	$(1.9)^{J}$	1.8	$(1.9)^{F}_{S}$	2.1	2.1	1.9	$(2.0)^{J}$	1.9	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.9	2.0	1.9	1.9	1.8^{S}	$(1.9)^{J}_{S}$	1.9
15	2.0	1.8	1.8	1.8	$(1.8)^{J}_{S}$	1.9	2.0	1.9	1.9^{F}	2.1^{H}	1.8	1.9	1.8	1.9	1.9	1.8	1.9	1.9	2.0^{S}	1.8	1.9	2.0	S	$(1.9)^{S}_{P}$
16	1.9	1.9	1.9	1.8^{F}	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	2.0	1.8	1.9	1.8	1.8
17	1.8	1.8	1.9	1.8^{F}	1.9	1.9	1.9	2.2	2.0	2.0	1.7	1.8	1.7	1.9	1.7	1.8	1.9	1.9	1.9	1.9	1.9	$(1.9)^{J}$	1.7	$(1.7)^{J}$
18	1.8	$(1.9)^{J}_{P}$	1.8	1.8	1.8	1.9	1.7	$(2.0)^{J}$	1.7	1.9	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.8	1.8	2.0	1.9	1.9	1.8	1.9
19	1.7	$(1.7)^{J}$	1.7	1.6	1.7^{F}	1.7^{K}	1.8^{K}	1.6^{K}	1.7^{K}	1.6^{K}	G^{K}	G^{K}	G^{K}	1.4^{K}	1.4^{K}	G^{K}	1.7^{K}	$(1.8)^{J}_{K}$	1.8^{K}	1.9^{K}	1.8^{K}	1.7^{K}	1.8	$(1.9)^{J}$
20	1.7	1.7	1.7	1.7	1.7	2.0	2.1	1.9^{H}	$(1.8)^{J}$	1.8	1.8	1.7	1.8	1.6	1.7	1.8	1.8	1.8	2.0	1.8	1.9	1.8	1.8	$(1.7)^{J}$
21	$(1.7)^{J}_{P}$	$(1.8)^{J}$	1.7	1.8	1.9	1.9	2.0	1.8	2.0	$(1.7)^{S}$	$(1.8)^{J}$	1.7	1.7	1.6	1.6	1.7	1.6	1.8	1.9	1.8	1.8	1.9	1.9	1.7
22	$(1.7)^{J}$	1.7	1.8	1.9	1.8^{S}	1.9	2.0	2.0	1.7^{K}	1.7^{K}	1.4^{K}	1.4^{K}	1.7^{K}	1.4^{K}	1.6^{K}	1.7^{K}	1.7^{K}	1.8^{K}	1.8^{K}	2.0^{K}	1.8^{K}	$(1.8)^{J}_{K}$	$(1.8)^{J}_{S}$	$(1.8)^{J}_{F}$
23	${}^{S}(1.9)^{J}_{F}$	$(1.9)^{F}$	1.8^{F}	1.9^{F}	1.9^{F}	2.0	2.0	$(2.0)^{J}$	2.0	1.8	1.7	1.7	1.7	1.8	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.8	1.8	$(1.8)^{S}$
24	1.8	$(1.8)^{J}$	$(1.8)^{J}$	1.8	1.9	1.9	2.0	1.9	$(1.9)^{S}$	C	$(1.7)^{J}$	$(1.6)^{J}$	G	$(1.7)^{J}$	$(1.7)^{J}$	G	$(1.6)^{J}_{S}$	$(1.9)^{J}_{S}$	1.9	1.8	1.8	1.8	1.8	$(1.8)^{J}$
25	$(1.9)^{J}$	$(1.8)^{J}$	1.9	1.9	2.0	2.0	2.0	2.0	1.8	2.0	1.8^{V}	1.8	1.8	$(1.7)^{J}$	1.9	1.8	1.8	1.9	1.9	1.9	1.8	$(1.8)^{S}$	S^{C}	$(1.7)^{J}_{S}$
26	S^{C}	$(1.8)^{J}$	$(1.8)^{J}_{S}$	1.8	$(1.7)^{J}$	1.7	1.7	1.6	1.9^{K}	G^{K}	1.7^{K}	1.6^{K}	1.5^{K}	1.7^{S}_{K}	1.6^{K}	A^{K}	$(1.6)^{J}_{K}$	1.7^{K}	1.8^{K}	$(1.9)^{J}$	$(1.9)^{J}$	$(1.9)^{J}$	$(1.9)^{J}$	1.8
27	$(1.8)^{J}$	1.7	$(1.7)^{J}$	1.7	1.8	1.8	1.9	2.0^{K}	2.1^{K}	2.0^{K}	G^{K}	G^{K}	G^{K}	1.6^{K}	G^{K}	A^{K}	A^{K}	1.7^{K}	1.8^{K}	1.8^{K}	1.9	1.8	1.8	1.8
28	1.8	1.9	1.9	1.8	1.8	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0	1.8	1.9	$(1.9)^{J}$	$(1.8)^{J}$	1.8	$(2.0)^{J}$
29	$(1.9)^{J}_{P}$	1.8	$(1.8)^{J}_{S}$	$(1.8)^{J}$	$(1.9)^{A}$	1.8	$(1.7)^{J}$	$(1.9)^{J}$	$(1.9)^{J}$	$(1.8)^{J}$	1.8	1.8	1.8	1.8	1.7	1.8	1.8	1.9	1.9	$(1.8)^{J}_{S}$	1.8	1.8	1.8	1.9
30	1.9	1.8	$(1.9)^{J}$	$(1.9)^{J}$	1.8	1.9	1.8	1.8	2.0	C	C	$(1.7)^{J}$	1.7	1.7	1.8	C	1.8	1.8	1.9	$(1.8)^{J}$	$(1.9)^{J}$	1.8	1.8	1.7^{S}
31																								
Median	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.9	1.9	1.8	1.8	1.8
Count	29	29	29	30	30	30	30	29	30	28	29	29	30	30	30	25	29	30	30	30	29	29	28	29

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE: 1946 O - 703519

Form adopted June 1946

TABLE 65

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

IONOSPHERIC DATA

F2-M 3000 (Characteristic), ______ (Unit), June (Month), 1948

Observed at Washington, D. C.

Lat 39.0°N, Long 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: J. L. K., N. N. M.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.5	(2.4)$^{F}_{P}$	2.3^{F}	2.4^{F}	2.4^{F}	2.7	2.5^{F}	2.5^{F}	(2.5)^{J}	2.5	2.4	(2.5)^{S}	G	2.6	2.4	C	(2.6)^{S}	2.7	2.5	2.6	2.7	2.7	2.6	S
2	(2.6)^{J}	2.7	^{P}(2.4)$^{J}_{S}$	2.5	2.7	3.1	2.9	3.0	2.9	2.8	2.7	2.7	2.5	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	S^{C}	(2.7)$^{J}_{C}$	(2.8)$^{J}_{P}$
3	(2.8)$^{J}_{P}$	C	(2.5)^{J}	(2.7)^{P}	(2.8)$^{J}_{C}$	2.9	(3.1)^{P}	(3.1)$^{J}_{S}$	(2.7)^{P}	2.6	G	G	G	2.5	2.5	2.5	2.5	(2.6)^{J}	2.8	(2.8)$^{J}_{S}$	2.7	2.6	2.6	(2.7)^{J}
4	(2.7)^{J}	2.7	(2.8)$^{J}_{P}$	2.7^{V}	2.6	2.9	2.8	2.9	2.5	2.5	2.4	2.6	2.6	2.6	2.5	C	2.7	2.7	2.7	2.8	(2.6)^{J}	2.6	2.8	2.6
5	2.7	2.6	(2.7)$^{J}_{S}$	2.7	2.8	3.0	^{P}(3.1)$^{J}_{S}$	2.6	2.7	2.6	2.5	2.5	2.3	2.5	2.4	2.5	2.5	2.6	2.8	2.6	2.7	2.6	2.6	(2.6)^{J}
6	(2.6)^{J}	2.7	2.5	2.4	2.5	2.9	(3.0)^{J}	2.7	2.9	G^{K}	G^{K}	2.2^{K}	2.4^{K}	(2.4)$^{J}_{K}$	(2.4)$^{S}_{K}$	2.5^{K}	2.6^{K}	2.5^{K}	2.6	2.8	2.8	2.6	2.6	2.6
7	2.6	2.7	2.6	2.7	2.7	2.9	2.8	3.1	2.7	2.6	2.5	2.7	2.5	2.7	2.6	2.6	2.6	2.6	2.8	2.7	2.9	2.7	2.6	(2.6)^{J}
8	2.7	(2.7)^{J}	2.7	2.7^{F}	2.7	2.8	2.7	2.7	2.4	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.6	2.5	(2.7)^{J}	(2.9)$^{J}_{S}$	(2.7)^{J}	(2.7)^{J}	2.6	(2.7)$^{J}_{S}$
9	(2.7)$^{J}_{S}$	(2.8)$^{J}_{F}$	2.8	2.6	2.5^{F}	2.7	2.7	2.6	2.6	2.5	2.8	2.7	2.6	2.6	2.6	2.7	2.6	2.8	2.8	(2.8)$^{J}_{S}$	(2.7)$^{J}_{S}$	2.7	(2.7)$^{J}_{S}$	2.7
10	(2.6)$^{J}_{S}$	(2.7)$^{J}_{S}$	(2.9)^{J}	(2.7)^{J}	2.8	2.9	2.8	2.7	2.7	2.6	2.6^{S}	2.7	2.6	(2.7)^{J}	2.7	2.5	2.6	2.7	(2.8)$^{J}_{S}$	2.9	(3.0)$^{J}_{P}$	2.8	(2.8)^{J}	2.6
11	2.7	(2.6)$^{J}_{S}$	(2.6)$^{J}_{S}$	2.8	(2.8)$^{J}_{S}$	2.9	2.8	2.8	3.0	2.7	2.8	2.8	2.7	2.7	2.8	2.8	2.6	2.7	2.8	2.9	A	2.8	(2.7)^{J}	^{P}(2.8)$^{J}_{S}$
12	(2.8)$^{J}_{S}$	2.9	A	(2.8)^{J}	2.6	2.9	3.0	2.7	2.7	(2.8)^{S}	2.6^{S}	S	2.5	(2.6)^{S}	(2.7)^{S}	2.5	(2.6)^{S}	(2.7)$^{J}_{S}$	2.8^{S}	2.7	(2.7)$^{J}_{S}$	(2.8)^{J}	2.6	(2.8)^{J}
13	2.7	2.2	(2.5)$^{S}_{P}$	(2.7)^{J}	2.7^{F}	2.9	(2.7)^{S}	C	2.2	2.4	2.5	2.1	2.6	2.6	(2.6)^{J}	2.6	2.5^{S}	2.7	2.8	(3.0)$^{J}_{S}$	(2.9)^{S}	(2.8)^{J}	(2.8)$^{J}_{S}$	2.7
14	(2.8)^{J}	(2.8)^{J}	(3.0)^{J}	2.8	2.9$^{F}_{S}$	3.1	3.1	2.8	(2.9)^{J}	2.8	2.7	2.6	2.7	2.7	2.6	2.7	2.7	2.8	2.9	2.8	2.8	2.8^{S}	(2.8)$^{J}_{S}$	2.8
15	3.0	2.7	2.7	2.7	(2.7)$^{J}_{S}$	2.8	2.9	2.9	2.8^{F}	3.0^{H}	2.7	2.8	2.7	2.8	2.8	2.7	2.9	2.8	2.9^{S}	2.8	2.8	2.9	S	(2.9)$^{S}_{P}$
16	2.9	2.8	2.9	2.8^{F}	2.9	2.9	2.9	2.9	2.8	3.0	2.8	2.8	2.9	2.8	2.8	2.9	2.8	2.8	2.9	2.9	2.7	2.8	2.7	2.7
17	2.7	2.7	2.7	2.8^{F}	2.9	2.8	2.8	3.2	2.9	3.1	2.6	2.7	2.6	2.9	2.6	2.7	2.8	2.8	2.8	2.8	2.8	(2.8)^{J}	2.7	(2.6)^{J}
18	2.7	(2.9)$^{J}_{P}$	2.7	2.8	2.7	2.9	2.6	(2.9)^{J}	2.6	2.9	2.6	2.6	2.8	2.5	2.7	2.6	2.6	2.8	2.7	2.9	2.8	2.8	2.7	2.9
19	2.7	(2.6)^{J}	2.5	2.5	2.5^{F}	2.5^{K}	2.8^{K}	2.5^{K}	2.6^{K}	2.5^{K}	G^{K}	G^{K}	G^{K}	2.1^{K}	2.2^{K}	G^{K}	2.6^{K}	(2.7)$^{J}_{K}$	2.7^{K}	2.9^{K}	2.7^{K}	2.7^{K}	2.7	(2.7)^{J}
20	2.7	2.8	2.6	2.6	2.8	2.9	3.0	2.9^{H}	(2.8)^{J}	2.7	2.7	2.6	2.7	2.5	2.6	2.8	2.8	2.7	3.0	2.8	2.9	2.7	2.7	(2.6)^{J}
21	(2.6)$^{J}_{P}$	(2.7)^{J}	2.6	2.7	2.9	2.9	2.9	2.7	3.1	(2.7)^{S}	(2.8)^{J}	2.6	2.6	2.4	2.5	2.6	2.5	2.8	2.8	2.7	2.7	2.8	2.8	2.5
22	(2.6)^{J}	2.6	2.7	2.8	2.7^{S}	2.9	3.0	2.9	2.6^{K}	2.7^{K}	2.2^{K}	2.2^{K}	2.5^{K}	2.1^{K}	2.4^{K}	2.5^{K}	2.6^{K}	2.7^{K}	2.8^{K}	3.0^{K}	2.8^{K}	(2.7)$^{J}_{K}$	(2.8)$^{J}_{S}$	(2.7)$^{J}_{F}$
23	^{S}(2.9)$^{J}_{F}$	(2.9)^{F}	2.7^{F}	2.8^{F}	2.8^{F}	3.1	3.0	(2.9)^{J}	3.0	2.9	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.8	2.9	2.8	2.8	2.7	(2.7)^{S}
24	2.7	(2.7)^{J}	(2.7)^{J}	2.7	2.8	2.8	2.9	2.8	(2.8)^{S}	C	(2.5)^{J}	(2.6)^{J}	G	(2.5)^{J}	(2.6)^{J}	G	(2.4)$^{J}_{S}$	(2.6)$^{J}_{S}$	2.8	2.7	2.8	2.7	2.6	(2.7)^{J}
25	(2.8)^{J}	(2.8)^{J}	2.8	2.8	2.9	2.9	3.0	3.0	2.7	2.9	2.7^{V}	2.7	2.7	(2.6)^{J}	2.8	2.8	2.6	2.8	2.8	2.8	2.7	(2.7)^{S}	S^{C}	(2.6)$^{J}_{S}$
26	S^{C}	(2.7)^{J}	(2.7)$^{J}_{S}$	2.8	(2.6)^{J}	2.5	2.6	2.4	2.8^{K}	G^{K}	2.6^{K}	2.4^{K}	2.3^{K}	2.5$^{S}_{K}$	2.4^{K}	A^{K}	(2.4)$^{J}_{K}$	2.6^{K}	2.7^{K}	(2.8)^{J}	(2.8)^{J}	(2.8)^{J}	(2.9)^{J}	2.7
27	(2.8)^{J}	2.6	(2.6)^{J}	2.6	2.7	2.7	2.8	3.1^{K}	3.1^{K}	2.6^{K}	G^{K}	G^{K}	G^{K}	2.3^{K}	G^{K}	A^{K}	A^{K}	2.4^{K}	2.8^{K}	2.7^{K}	2.8	2.7	2.8	2.8
28	2.8	2.9	2.8	2.7	2.8	2.9	3.0	3.0	3.0	2.9	2.7	2.7	2.7	2.8	2.7	2.7	2.7	2.9	2.7	2.9	(2.8)^{J}	(2.7)^{J}	2.8	(2.9)^{J}
29	(2.8)$^{J}_{P}$	2.6	(2.8)$^{J}_{S}$	(2.7)^{J}	(2.8)^{A}	2.7	(2.7)^{J}	(2.9)^{J}	(2.9)^{J}	(2.8)^{J}	2.7	2.7	2.7	2.6	2.6	2.7	2.8	2.8	2.8	(2.8)$^{J}_{S}$	2.8	2.8	2.8	2.9
30	2.8	2.7	(2.8)^{J}	(2.9)^{J}	2.7	2.8	2.7	2.8	3.0	C	C	(2.5)^{J}	2.6	2.5	2.7	C	2.7	2.8	2.8	(2.8)^{J}	(2.8)^{J}	2.7	2.7	(2.6)^{S}
31																								
Median	2.7	2.7	2.7	2.7	2.7	2.9	2.8	2.9	2.8	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.8	2.8	2.8	2.7	2.7	2.7
Count	29	29	29	30	30	30	30	29	30	28	29	29	30	30	30	25	29	30	30	30	29	29	28	29

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

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TABLE 66

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Form adopted June 1946

IONOSPHERIC DATA

F1-M3000, ______ (Unit), June (Month), 1948 (Characteristic)

Observed at Washington, D. C.

Lat. 39.0°N, Long. 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: N. N. M., J. L. K.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							3.5^{F}	3.5	3.5	3.3^{V}	3.3^{H}	$(3.8)^{S}$	3.8	3.5	3.8	C	3.5	L	L					
2							Q	L	L	L	3.6	3.5	$(3.4)^{S}$	3.7	$(3.6)^{H}$	3.6^{V}	L^{H}	L^{H}	Q					
3							Q	$(3.4)^{V}$	3.6	3.7	C	3.3	3.6	H	$(3.8)^{H}$	3.8^{H}	3.6	L	L					
4							Q	L	L	L^{H}	S^{C}	4.0	3.8	3.8	3.5	C	3.4	L	Q					
5							L^{H}	L	3.7^{H}	3.5	3.6	$(3.6)^{C}$	3.7	3.9	$(3.5)^{P}$	3.5	3.2	3.4	L					
6							Q	L	3.7	4.0^{K}	3.3^{K}	3.6^{K}	3.6^{K}	3.8^{K}	3.7^{K}	3.9^{V}_{K}	3.6^{K}	L^{K}	L					
7							Q	L	L	A	3.4	L	L	3.7	3.6^{S}	3.6	L^{H}	3.0^{H}	L					
8							L	3.2^{V}	3.5	3.5	3.6	S	3.4	3.6^{H}	3.5	3.7	3.5	L	L					
9							3.4	3.3	3.4	3.6	3.3	3.6	3.7	$(3.6)^{S}$	3.7	3.6	L^{H}	L^{H}	Q					
10							3.2	3.7^{H}_{S}	L	3.7	3.6	3.8	3.7	3.8	3.5	3.3	3.2	L	L					
11							Q	L	L	3.7	A	A	A	3.4	3.6	3.7^{H}	L^{H}	L	Q					
12							L	3.4	3.6^{H}	3.6	3.4	S	A	3.6	3.4^{H}	3.5^{H}	3.4^{S}	$(3.3)^{S}$	L					
13							Q	C	3.7^{H}	3.9	3.9	3.8	3.6	3.5	3.7	3.5	3.3	L	L					
14							Q	L	A	A	3.6	3.3	N^{H}	A	A	3.5	L	A	L^{H}					
15							Q	Q	L^{H}	4.1^{H}	N^{H}	3.8^{H}	4.2	3.6	3.5^{H}	3.5	L	L^{H}	Q					
16							Q	L	A	3.6	3.8	3.8	3.6	3.5	3.3	3.6^{H}	L	L^{A}	Q					
17							Q	A	3.8	4.3^{H}	A	A	3.6	3.7	3.7	3.4	3.5^{F}	L^{H}	L					
18						L	3.3	L	3.5	A	3.7	3.9	3.6	3.2	3.5	$(3.1)^{A}$	3.2	L	L					
19						L^{K}	3.3^{K}	3.7^{K}	3.7^{K}	3.9^{K}	4.0^{H}_{K}	4.1^{K}	3.9^{K}	4.0^{K}	3.9^{K}	3.7^{K}	$(3.8)^{S}_{K}$	$(3.5)^{S}_{K}$	L^{K}					
20							Q	3.4	3.3	3.7	3.4	3.6	3.8	3.5	3.5^{H}	3.8	3.4	L^{H}	L					
21							Q	3.5	A	A	4.4	3.6^{H}	3.7	3.5	3.6	3.5	3.6	L	L					
22							Q	3.5	3.7^{K}	3.9^{K}	4.0^{K}	3.9^{K}	4.1^{K}	3.8^{K}	4.1^{K}	3.6^{K}	3.6^{H}_{K}	3.2^{F}_{K}	3.4^{F}_{K}					
23							Q	L^{F}	L	3.5	3.6	3.8	N^{H}	A	$(3.4)^{S}$	3.4	3.4	L	Q					
24							Q	3.6	3.5	C	3.7	3.7	4.0	4.0	3.8^{H}	A	$(3.5)^{S}$	$(2.5)^{S}$	L					
25							Q	L	L	L	A	A	A	A	$(3.8)^{A}$	3.5	A	3.4	A					
26							3.1	3.5	3.8^{K}	3.6^{K}	A^{K}	3.3^{K}	A^{K}	A^{K}	3.6^{K}	A^{K}	4.0^{H}_{K}	3.2^{K}	L^{K}					
27							Q	L^{K}	3.5^{H}_{K}	3.7^{K}	$(3.7)^{S}_{K}$	3.9^{K}	$(3.7)^{S}_{K}$	S^{K}	3.8^{K}	A^{K}	A^{K}	3.6^{K}	$(3.1)^{A}_{K}$					
28							Q	Q	L	3.7	A	A	A	$(3.6)^{A}$	3.6	3.6	3.4	A	A					
29							Q	3.4	3.3^{H}	3.6^{H}	3.8	3.6	3.4	3.7	$(3.8)^{B}$	3.6	3.3	L	L					
30							L	L	3.3	C	C	3.4	C	$(3.4)^{C}$	$(3.7)^{S}_{C}$	C	$(3.6)^{H}_{S}$	$(3.7)^{C}$	C					
31																								
Median							3.3	3.5	3.6	3.7	3.6	3.7	3.7	3.6	3.6	3.6	3.5	3.4						
Count							6	13	18	21	21	23	21	24	29	24	21	10	2					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

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U. S. GOVERNMENT PRINTING OFFICE 1946 O - 703519

Form adopted June 1946

TABLE 67

Central Radio-Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

E-M1500, ______ (Characteristic) (Unit), June (Month), 1948

Observed at Washington, D. C.

Lat. 39.0°N, Long. 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: N. N. M., J. L. K.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						3.5 H	4.0	4.2	(4.5) A	A	4.4	(4.3) S	4.4	B	4.3	C	4.2	4.4	4.2 H	A				
2						4.3	4.4	4.5	4.3	4.4	4.4	(4.5) A	C	S C	A	A	(4.2) S	4.3	4.1	(4.2) F				
3						A	A	(4.4) A	4.4	A	4.4	4.3	4.6	4.3	4.2	4.2 H	4.2 H	(4.2) S	4.2 H	A				
4						4.4 H	4.2	4.1	4.3	4.5	(4.3) C	(4.3) B	(4.5) H	(4.5) S	(4.5) A	C	4.2 H	(4.4) A	4.6 H	(4.0) A				
5						4.4 H	4.4 H	(4.2) A	(4.6) H	4.6	(4.6) A	B	4.4	(4.5) B	4.3	4.3	4.3	4.4	4.3	A				
6						4.1 H	A	4.2 H	A	4.3 K	4.4 K	(4.4) A K	A K	A K	A K	4.5 K	A K	(4.5) A K	A	A				
7							(4.2) A	(4.3) A S	4.3	4.3	(4.4) S C	4.3	4.4	4.3	(4.4) S	A	A	3.9 F	4.1 F	(4.4) F				
8						3.7	4.4 H	4.3	4.2	4.2	4.4	4.3	4.3	A	B	4.6	4.2	4.6	4.0	4.5 H				
9							4.2 H	4.2	4.3	4.5	4.4	4.4	4.4	4.5	(4.5) A	A	4.4	4.2	4.0	4.1				
10							4.3	4.2	4.4	4.4	4.4	4.1 H	A H	4.5	4.4 S	A	4.3	4.1	4.1	(4.6) A				
11							(4.4) F S	(4.2) F	4.2 F	4.5	(4.6) A	(4.6) A	A	4.5	A	4.2	4.2	4.1	4.2	A				
12						4.6 A	A	4.2 F	4.4 F	4.1 F	4.2	A	A	(4.4) S	4.3	4.0	4.2 F	4.2	4.1	3.8				
13						4.5	4.2	C	A	(3.9) S	(4.3) S	4.3	4.4	4.3	4.4	4.4	4.2	4.5	4.4	A				
14							4.1 F	4.1 F	A	4.6	(4.6) A	A	4.0	4.2	4.2	4.3	4.1	4.1	4.1	A				
15						4.3 H	4.3	4.3 H	4.3	4.3	4.0 F	4.1 F	4.4	4.5	4.1	4.2	4.2	4.1	4.2	A				
16							(4.5) A	4.4 F	A	4.5	4.5	4.2	4.3	4.4	4.2	(4.5) A	4.3 H	4.5	(4.3) A	A				
17						A	A	A	4.5	A	A	A	A	A	4.4	4.1 F	A	(4.1) A	4.3	A				
18							(4.2) H	4.2 H	4.5	4.6	A	A	A	(4.5) A	4.5	4.5	4.5	4.2	4.3	A				
19							5.0 K	4.3 K	(4.4) A K	4.4 K	4.5 K	A K	(4.7) A K	A K	A K	A K	A K	A S K	A K	A K				
20						3.5	(4.6) A	A	4.0 F	4.3	4.4 H	4.4	4.4	4.5	4.3	4.3	4.1	4.1	4.4	A				
21							4.9	4.5	4.3	4.5	A	4.2 H	4.3	4.4 H	4.2	4.1 F	4.2	4.2	4.3	A				
22							(4.4) A	4.1 F	4.5 K	(4.6) A K	4.5 K	(4.5) A K	A K	4.3 K	4.4 K	(4.2) A K	4.1 K	4.2 K	4.2 K	(4.0) A K				
23						(4.1) A	4.3	4.2 F	4.2	4.5	4.3	4.4	4.4	(4.6) A	(4.6) A	A	A	4.3	4.4	4.2				
24						4.0 H	(4.0) A F	A	(4.1) A	C	4.1	4.3	4.4	4.3	4.3	4.5	(4.2) S	4.3	A	A				
25						A	A	(4.4) A	A	4.4	4.4	4.4	4.6	(4.5) A	4.6	A	A	A	A	A				
26						A	A	A	A K	4.4 K	(4.5) A K	4.3 K	4.2 K	4.4 K	(4.4) A K	4.5 K	4.1 H K	4.2 K	3.9 K	4.5				
27							(4.2) A	A K	4.5 K	4.4 K	4.6 K	4.7 K	4.7 K	4.7 K	(4.7) A K	4.5 K	4.2 K	4.2 K	4.3 K	4.4 K				
28						A	4.6 H	A	4.4 H	4.5	4.4	(4.4) A	4.4	A	A	(4.5) S	4.3	(4.5) A	A	A				
29							A	(4.5) A	4.5	A	4.8	A	4.5	4.4	B C	4.4	4.3	A	4.0	A				
30						5.0	4.7	(4.8) A	A	C	C	A	C	4.5	S	C	4.2	4.2	(4.3) S	A				
31																								
Median						4.3	4.3	4.2	4.4	4.4	4.4	4.3	4.4	4.5	4.4	4.4	4.2	4.2	4.2	4.2				
Count						13	23	23	23	24	26	22	21	23	22	20	24	27	25	11				

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

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Table 68

Ionospheric Storminess at Washington, D. C.

June 1948

Day	Ionospheric character* 00-12 GCT	Ionospheric character* 12-24 GCT	Principal storms Beginning GCT	Principal storms End GCT	Geomagnetic character** 00-12 GCT	Geomagnetic character** 12-24 GCT
1	3	3			4	3
2	3	3			3	1
3	1	3			2	2
4	1	1			1	2
5	1	3			2	3
6	3	4	1400	2300	2	2
7	2	3			2	3
8	2	2			2	3
9	1	1			3	3
10	2	2			2	1
11	2	1			1	2
12	2	3			2	3
13	2	3			3	2
1	3	1			0	2
15	1	3			2	1
16	1	3			1	1
17	1	1			2	3
18	2	2			2	3
19	1	6	1000	---†	3	3
20	3	2	---†	0300	2	3
21	3	3			4	4
22	2	5	1300	---†	4	2
23	2	1	---†	0300	1	2
24	1	3			2	2
25	1	3			2	2
26	1	4	1300	2400	4	4
27	2	5	1200	---†	2	2
28	2	3	---†	0100	1	1
29	1	1			1	1
30	0	2			1	2

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D.C., during 12-hour period, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of Cheltenham, Maryland, geomagnetic K-figures on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

†Dashes indicate continuing storm.

Table 69

Sudden Ionosphere Disturbances Observed at Washington, D. C.

June 1948

Day	GCT Beginning	GCT End	Location of transmitters	Relative intensity at minimum*	Other phenomena
1	1748	1810	Ohio, D.C., England	0.0	
5	1639	1700	Ohio, D.C., England	0.03	
5	1859	1930	Ohio, D.C., England	0.0	
8	1842	1940	Ohio, D.C., England	0.0	
13	1715	***	Ohio, D.C., England	0.0	
13	1734	1830	Ohio, D.C., England	0.02	
19	1315	1330	Ohio, D.C., England	0.1	Terr.mag.pulse** 1313-1325
20	2005	2030	Ohio, D.C., England	0.0	
22	1630	1710	Ohio, D.C., England	0.05	
23	1935	2015	Ohio, D.C.	0.1	
24	1823	1920	Ohio, D.C.	0.05	
25	1313	1320	Ohio, D.C., England	0.2	
25	2052	2120	Ohio, D.C.	0.1	
30	1411	1420	Ohio, England	0.05	

*Ratio of received field intensity during SID to average field intensity before and after, for station W8XAL, 6080 kilocycles, 600 kilometers distant.

**As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

***Incomplete recovery of SID.

Table 70

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief,

Cable and Wireless, Ltd., as Observed in England

1948 Day	GCT Beginning	GCT End	Receiving station	Location of transmitters
May 21	1125	1300	Brentwood	Austria, Bahrein I., Belgian Congo, Bulgaria, Canary Is., Greece, India, Iran, Kenya, Madagascar, Malta, New York, Palestine, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, Thailand, Turkey, U.S.S.R., Yugoslavia, Zanzibar
21	1125	1225	Somerton	Argentina, Australia, Barbados, Brazil, Canada, Ceylon, China, Egypt, Gold Coast, India, New York, Union of S. Africa
23	0915	0940	Brentwood	Austria, Bulgaria, Eritrea, Germany, Malta, Palestine, Southern Rhodesia, Turkey, U.S.S.R., Zanzibar
June 3	0920	1000	Brentwood	Austria, Bahrein I., Belgian Congo, Bulgaria, Canary Is., Eritrea, French Equatorial Africa, Germany, Greece, India, Iran, Kenya, Palestine, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, U.S.S.R., Yugoslavia, Zanzibar
3	0925	1000	Somerton	Argentina, Australia, Ceylon, China, Gold Coast, India, Union of S. Africa
11	1007	1030	Brentwood	Austria, Bahrein I., Belgian Congo, Bulgaria, Greece, India, Iran, Kenya, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, U.S.S.R., Yugoslavia, Zanzibar
15	1020	1030	Brentwood	Austria, Bahrein I., Belgian Congo, Bulgaria, Greece, India, Iran, Kenya, Palestine, Portugal, Southern Rhodesia, Spain, Syria, Turkey, Yugoslavia, Zanzibar
18	0737	0815	Brentwood	Afghanistan, Austria, Bahrain I., Belgian Congo, French Equatorial Africa, Greece, India, Iran, Kenya, Madagascar, Portugal, Southern Rhodesia, Switzerland, Syria, Thailand, Turkey, U.S.S.R., Yugoslavia, Zanzibar

Table 70 (Continued)

1948 Day	GCT Beginning	GCT End	Receiving station	Location of transmitters
June 18	0735	0810	Somerton	Ceylon, China, Egypt, Gold Coast, India, Union of S. Africa
19	1315	1350	Brentwood	Austria, Bulgaria, Canary Is., Iran, Malta, Spain, Switzerland, Yugoslavia, Zanzibar
20	1015	1055	Brentwood	Austria, Bahrein I., Belgian Congo, India, Iran, Spain, Switzerland, Syria, Turkey, U.S.S.R.
20	1015	1030	Somerton	China, New York
21	0745	0800	Brentwood	Austria, Belgian Congo, Greece, India, Iran, Kenya, Madagascar, Palestine, Portugal, Southern Rhodesia, Switzerland, Syria, Thailand, Turkey, U.S.S.R., Yugoslavia, Zanzibar
21	0745	0800	Somerton	Australia, Barbados, Ceylon, China, Gold Coast, New York, Union of S. Africa

Table 71

Sudden Ionosphere Disturbances Reported by

RCA Communications, Inc., as Observed

at Point Reyes, California

1948 Day	GCT Beginning	GCT End	Location of transmitters
June 20	2007	2035	Australia, China, Hawaii, Japan, Philippine Is.

Note: Observers are invited to send to the CRPL information on times of beginning and end of sudden ionosphere disturbances for publication as above. Address letters to the Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Table 72

Provisional Radio Propagation Quality Figures
(Including Comparisons with CRPL Warnings and CRPL Probable Disturbed Period Forecasts)
May 1948

Day	North Atlantic							North Pacific						
	Quality figure		CRPL* Warning		CRPL Forecast of probable disturbed periods	Geo-magnetic K_{Ch}		Quality figure		CRPL* Warning		CRPL Forecast of probable disturbed periods	Geo-magnetic K_{Ch}	
	01-12 GCT	13-24 GCT	01-12 GCT	13-24 GCT		01-12 GCT	13-24 GCT	01-12 GCT	13-24 GCT	01-12 GCT	13-24 GCT		01-12 GCT	13-24 GCT
1	7	7				2	3	7	7				2	3
2	6	5				3	4	7	7				3	4
3	6	6				3	3	8	8				3	3
4	6	6				2	3	7	5				2	3
5	6	6				2	2	7	7				2	2
6	6	5		X		3	3	7	6		X		3	3
7	(4)	(4)	X	X		4	3	6	5	X	X		4	3
8	(4)	5	X	X	X	2	3	6	6	X	X	X	2	3
9	(4)	(4)	X	X	X	4	3	6	5	X	X	X	4	3
10	(4)	(4)	X	X	X	3	3	5	6	X	X	X	3	3
11	6	5	X	X	X	3	3	6	6	X	X	X	3	3
12	5	6	X		X	3	3	6	7	X		X	3	3
13	6	6				4	2	6	6				4	2
14	7	6				1	2	6	6				1	2
15	6	6				4	4	6	6				4	4
16	(4)	5		X		5	6	5	5		X		5	6
17	8	6		X	X	2	2	5	5		X	X	2	2
18	7	6	X	X	X	2	2	5	5	X	X	X	2	2
19	8	7			X	1	1	5	6			X	1	1
20	8	7				2	1	5	5				2	1
21	5	5		X		4	4	5	(4)		X		4	4
22	(3)	5	X	X	X	4	3	(4)	(3)	X	X	X	4	3
23	(4)	6	X	X		3	3	5	5	X	X		3	3
24	5	6	X	X		3	2	5	(3)	X	X		3	2
25	6	6				3	2	6	5				3	2
26	7	7				2	2	6	6				2	2
27	6	6				3	2	5	5				3	2
28	8	7				1	2	6	5				1	2
29	7	6				3	4	5	(4)				3	4
30	8	7				2	3	5	6				2	3
31	7	7				2	3	5	6				2	3
Score:														
H			6		4					3		1		
M			1		3					1		3		
G			17		19					16		19		
(S)			5		2					7		5		
S			2		3					4		3		

*Broadcast on WWV, Washington, D.C. Times of warnings recorded to nearest half day as broadcast.

Quality Figure Scale:
1 = Useless
2 = Very poor
3 = Poor
4 = Poor to fair
5 = Fair
6 = Fair to good
7 = Good
8 = Very good
9 = Excellent

Symbols:

X — Warning given or probable disturbed date

H — Quality 4 or worse on day or half day of warning

M — Quality 4 or worse on day or half day of no warning

G — Quality 5 or better on day of no warning

(S) — Quality 5 on day of warning

S — Quality 6 or better on day of warning

( ) — Quality 4 or worse (disturbed)

Geomagnetic K_{Ch} on the standard scale of 0 to 9, 9 representing the greatest disturbance.

Table 73

American and Zürich Provisional Relative Sunspot Numbers

June 1948

Date	R_A*	R_Z**	Date	R_A*	R_Z**
1	150	131	16	211	157
2	156	127	17	234	172
3	153	126	18	219	193
4	180	142	19	207	163
5	213	175	20	171	133
6	211	212	21	186	151
7	189	177	22	190	155
8	181	173	23	233	160
9	191	178	24	254	184
10	184	198	25	277	202
11	187	172	26	268	198
12	172	143	27	247	205
13	175	140	28	257	200
14	182	151	29	248	216
15	188	145	30	193	150
			Mean:	203.6	167.6

*Combination of 47 observers; see page 8.

**Dependent on observations at Zürich Observatory and its stations at Locarno and Arosa.

Table 74a

Coronal observations at Climax, Colorado (5303A), east limb

Date GCT	Degrees north of the solar equator																		0°	Degrees south of the solar equator																		P
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
1948																																						
June 1.6	X	X	X	X	-	-	-	-	-	-	3	17	12	16	32	30	28	14	13	15	25	28	30	19	20	18	8	5	-	-	-	-	-	-	-	-	-	-15
2.6	-	-	-	-	-	-	-	-	-	8	11	14	15	20	25	28	28	25	19	16	17	25	31	20	19	22	14	8	3	-	-	-	-	-	-	-	-	-15
3.6	X	X	X	X	-	-	-	-	-	-	4	8	10	19	23	27	26	20	16	13	15	20	22	17	16	14	11	10	3	-	-	-	-	-	-	-	-	-15
4.6	-	-	-	-	-	-	-	-	3	5	9	10	14	13	25	37	26	15	14	12	16	19	20	18	14	15	11	9	5	2	-	-	-	-	-	2	2	-15
5.7	-	-	-	-	-	-	-	-	-	-	-	-	3	5	9	13	14	15	15	13	25	31	19	18	15	11	11	9	3	-	-	-	-	-	-	-	-	-15
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	11	11	11	10	10	13	24	24	20	13	10	8	8	7	-	-	-	-	-	-	-	-	-15
7.7	X	X	X	X	-	-	-	-	-	-	-	-	-	-	4	5	7	7	-	10	13	25	25	19	15	10	8	5	5	-	-	-	-	-	-	-	-	-15
8.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	14	9	7	8	31	33	25	19	17	8	5	-	-	-	-	-	-	-	-	-	-	-	-10
10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	11	14	11	-	-	10	9	9	8	5	-	-	-	-	-	-	-	-	-	-	-	-	-10
12.7	-	-	-	-	-	-	-	-	-	-	5	8	8	11	11	13	16	18	12	5	3	3	4	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-10
13.7	-	-	-	-	-	-	-	-	-	-	4	5	8	15	13	15	14	13	5	-	-	-	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
14.9	-	-	-	-	-	-	-	-	-	-	5	10	15	20	20	19	15	10	10	9	11	12	12	13	14	8	3	3	-	-	-	-	-	-	-	-	-	-10
16.0	-	-	-	-	-	-	-	-	-	-	-	8	9	11	11	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
16.6	-	-	-	-	-	-	-	-	-	5	8	10	13	14	14	14	10	9	8	10	15	16	17	12	7	6	6	6	5	3	-	-	-	-	-	-	-	-10
17.6	-	-	-	-	-	-	-	-	-	-	6	11	13	13	10	14	14	13	5	11	14	15	16	13	10	-	-	-	-	-	-	-	-	-	-	-	-	-10
18.7	X	X	X	-	-	-	-	-	-	-	-	11	12	13	13	14	14	14	10	-	9	10	12	12	8	-	-	-	-	-	-	-	-	-	-	-	-	-10
20.9	-	-	-	-	-	-	-	-	-	-	4	6	10	11	11	10	6	-	6	-	-	7	7	7	5	-	-	3	3	-	-	-	-	-	-	-	-	- 5
22.6	-	-	-	-	-	-	-	-	-	2	9	18	19	20	14	13	15	15	15	12	14	13	12	11	10	9	-	-	-	-	3	3	-	-	-	-	-	- 5
24.9	X	X	-	-	-	-	-	-	-	-	-	4	10	11	12	13	14	13	13	12	12	13	11	9	8	5	4	-	X	X	X	X	X	X	X	X	X	- 5
25.8	X	X	-	-	-	-	-	-	-	-	-	-	9	10	14	14	13	12	8	10	12	13	10	7	-	-	-	-	-	-	-	-	-	-	-	-	-	- 5
26.8	X	X	-	-	-	-	-	-	-	-	-	5	9	11	12	10	10	3	-	5	14	12	10	-	-	-	-	-	X	X	X	X	X	X	X	X	X	- 5
27.8	X	X	-	-	-	-	-	-	-	-	-	2	5	10	11	11	8	5	4	7	11	13	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	- 5
28.7	-	-	-	-	-	-	-	-	-	-	3	5	5	8	11	10	13	12	6	3	3	12	22	17	10	9	5	-	-	-	-	3	3	-	-	-	-	- 5
29.7	-	-	-	-	-	-	-	-	-	-	-	5	5	5	6	8	9	10	10	9	10	17	19	16	12	11	-	-	-	-	-	-	-	-	-	-	-	- 5
30.6	-	-	-	-	-	-	-	-	-	-	-	4	6	11	12	13	14	15	14	10	10	15	21	20	14	15	13	8	6	5	5	4	4	3	3	-	-	- 5

Table 75a

Coronal observations at Climax, Colorado (6374A), east limb

Date GCT	Degrees north of the solar equator																		0°	Degrees south of the solar equator																		P
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
1948																																						
June 1.6	X	X	X	X	-	-	-	-	-	-	-	-	-	4	4	5	6	4	2	1	2	5	6	8	5	-	-	-	-	-	-	-	-	-	-	-	-	-15
2.6	-	-	-	-	-	-	-	-	-	-	-	-	8	13	12	8	19	10	4	3	4	8	8	7	6	1	-	-	-	-	-	-	-	-	-	-	-	-15
3.6	X	X	X	X	-	-	-	-	-	-	-	-	1	1	2	14	11	7	7	4	6	13	10	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-15
4.6	-	-	-	-	-	-	-	-	-	-	-	-	5	1	7	15	7	5	1	1	5	4	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-15
5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	14	10	-	-	8	10	14	11	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-15
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5	9	-	5	12	12	10	12	6	3	-	-	-	-	-	-	-	-	-	-	-	-15
7.7	X	X	X	X	-	-	-	-	-	-	-	-	-	-	1	8	10	1	1	9	10	10	11	11	11	8	1	-	-	-	-	-	-	-	-	-	-	-15
8.6	-	-	-	-	-	-	-	-	1	1	2	2	3	2	11	5	-	8	9	7	8	9	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
10.6	-	-	-	-	-	-	-	-	-	-	-	-	1	1	10	11	9	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
12.7	-	-	-	-	-	-	-	-	-	-	2	1	1	2	-	9	7	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
13.7	-	-	-	-	-	-	-	-	-	-	-	8	1	5	9	8	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
14.9	-	-	-	-	-	-	-	-	-	-	-	3	2	1	3	4	4	1	1	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
16.6	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	2	2	2	1	3	3	1	1	1	4	2	2	1	1	-	-	-	-	-	-	-	-	-10
17.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	2	-	1	2	1	2	2	3	3	1	-	-	-	-	-	-	-	-	-	-	-10
18.7	X	X	X	-	-	-	-	-	-	-	-	-	-	-	1	1	1	3	-	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-10
20.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 5
22.6	-	-	-	-	-	-	-	-	-	-	-	3	2	3	3	2	1	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	- 5
24.9	X	X	-	-	-	-	-	1	1	2	2	2	2	2	1	-	3	3	3	2	2	3	3	3	2	-	-	-	X	X	X	X	X	X	X	X	X	- 5
25.8	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	1	1	11	8	1	-	-	-	-	-	-	-	-	-	-	-	-	- 5
26.8	X	X	-	-	-	-	-	-	-	-	1	2	2	4	5	5	5	2	1	3	5	8	10	10	-	-	-	-	X	X	X	X	X	X	X	X	X	- 5
27.8	X	X	-	-	-	-	-	-	-	-	-	-	1	1	1	1	2	2	3	3	5	4	5	3	1	-	-	-	X	X	X	X	X	X	X	X	X	- 5
28.7	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	1	1	1	2	2	6	9	8	8	5	1	-	-	-	-	-	-	-	-	-	-	-	- 5
29.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3	3	7	5	5	2	1	1	-	-	-	-	-	-	-	-	-	-	- 5
30.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	10	7	2	1	2	1	1	-	-	-	-	-	-	-	-	-	- 5

Table 74b

Coronal observations at Climax, Colorado (5303A), west limb

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																		P
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
1948																																						
June 1.6	-	-	-	-	-	-	2	4	5	-	2	3	11	14	14	12	14	13	10	10	10	12	15	15	15	X	X	X	X	X	X	X	X	X	X	X	X	-15
2.6	-	-	-	-	-	3	6	10	10	2	2	3	23	24	28	25	23	17	15	14	22	26	28	25	18	15	15	13	7	-	-	-	-	-	-	-	-	-15
3.6	-	-	-	-	-	-	6	8	5	-	-	-	13	22	20	30	24	22	19	10	13	20	21	20	20	17	13	10	7	3	X	X	X	X	X	X	X	-15
4.6	2	3	3	3	3	4	3	5	5	4	3	12	20	33	35	32	30	27	28	20	10	25	22	20	20	19	18	15	9	2	2	-	-	-	-	-	-	-15
5.7	-	-	-	-	-	3	3	5	5	4	8	9	11	14	36	37	18	14	14	12	13	24	22	20	15	12	14	13	11	-	-	-	-	-	-	-	-	-15
6.7	-	-	-	-	3	4	6	7	6	3	10	10	12	16	18	18	17	17	16	16	21	23	24	20	16	14	13	12	11	-	-	-	-	-	-	-	-	-15
7.7	-	-	-	-	-	5	7	7	5	-	-	-	5	6	8	11	12	10	10	13	14	14	13	18	23	14	9	8	7	5	X	X	X	X	X	X	X	-15
8.6	-	-	3	4	9	11	11	9	9	11	10	11	11	13	14	14	13	13	18	30	29	15	28	25	22	19	10	9	5	-	-	-	-	-	-	-	-	-10
10.6	-	-	-	-	-	8	9	9	9	8	-	-	-	-	10	11	11	12	15	20	19	18	18	15	14	13	10	5	-	-	-	-	-	-	-	-	-	-10
12.7	-	-	-	-	3	4	5.	5	5	3	-	-	-	7	10	25	24	22	13	10	23	27	18	16	14	11	8	3	-	-	-	-	-	-	-	-	-	-10
13.7	-	-	-	-	-	4	4	5	5	4	-	-	-	8	13	18	24	23	15	6	14	15	18	14	13	13	11	-	-	-	-	-	-	-	-	-	-	-10
14.9	-	-	-	3	4	5	5	5	4	4	3	6	8	21	31	30	28	20	14	12	14	18	27	15	13	14	15	12	-	-	-	-	-	-	-	-	-	-10
16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	8	10	10	8	-	-	8	9	10	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
16.6	-	-	-	-	-	3	4	4	3	-	9	10	12	12	17	24	20	18	10	20	22	20	18	15	13	9	11	10	3	-	-	-	-	-	-	-	-	-10
17.6	-	-	-	-	-	-	-	-	-	-	10	12	15	14	13	18	16	15	13	14	16	16	15	11	11	11	10	9	7	-	-	-	-	-	-	-	-	-10
18.7	-	-	X	X	X	X	X	X	X	X	X	X	-	-	9	10	12	10	9	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	-10
20.9	-	-	-	-	-	-	-	-	-	-	-	3	8	10	13	15	15	11	10	10	11	8	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 5
22.6	-	-	-	-	-	-	-	-	-	-	-	3	4	7	11	12	11	9	9	13	18	15	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 5
24.9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	- 5
25.8	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	- 5
26.8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	- 5
27.8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	- 5
28.7	-	-	-	-	-	-	-	-	-	-	-	3	4	5	6	7	8	7	4	2	2	5	8	10	9	8	5	3	2	-	-	-	-	-	-	-	-	- 5
29.7	-	-	-	-	-	-	-	-	-	-	-	4	5	6	8	11	10	8	7	6	6	9	10	13	12	13	12	10	10	5	-	-	-	-	-	-	-	- 5
30.6	-	-	-	-	-	-	3	7	6	3	3	10	11	12	28	23	27	28	13	10	11	16	15	15	15	17	16	14	13	8	3	-	-	-	-	-	-	- 5

Table 75b

Coronal observations at Climax, Colorado (6374A), west limb

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																		P
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
1948																																						
June 1.6	-	-	-	-	-	-	-	-	-	-	-	-	1	4	1	1	6	8	2	1	3	3	2	-	-	X	X	X	X	X	X	X	X	X	X	X	X	-15
2.6	-	-	-	-	-	-	-	-	-	-	-	1	3	11	10	3	7	4	4	2	10	10	1	2	9	1	1	-	-	-	-	-	-	-	-	-	-	-15
3.6	-	-	-	-	-	-	-	-	-	-	-	-	1	13	3	2	4	9	2	8	1	12	10	1	1	1	2	2	1	1	X	X	X	X	X	X	X	-15
4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	2	5	3	3	4	4	5	1	10	10	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-15
5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	11	11	5	2	1	3	3	4	10	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-15
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	13	1	-	-	1	2	8	6	9	7	1	-	-	-	-	-	-	-	-	-	-	-	-15
7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	5	11	6	2	1	-	-	X	X	X	X	X	X	X	-15
8.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	11	2	3	15	1	1	1	1	-	-	-	-	-	-	-	-	-	-10
10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	2	10	8	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-10
12.7	-	-	-	-	-	-	-	-	-	-	-	-	1	3	11	10	2	4	1	3	8	10	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-10
13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	4	3	1	-	2	10	7	1	1	2	1	1	-	-	-	-	-	-	-	-	-	-	-10
14.9	-	-	-	-	-	-	-	-	-	-	-	1	2	3	8	8	13	8	5	-	10	1	1	9	1	-	-	-	-	-	-	-	-	-	-	-	-	-10
16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
16.6	-	-	-	-	-	-	-	-	-	-	-	-	2	3	7	9	7	4	5	6	6	4	2	1	4	1	-	-	-	-	-	-	-	-	-	-	-	-10
17.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	8	14	5	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
18.7	-	-	X	X	X	X	X	X	X	X	X	X	-	-	-	3	5	4	2	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	-10
20.9	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	5	10	7	5	4	5	5	4	1	1	1	-	-	-	-	-	-	-	-	-	-	-	- 5
22.6	-	-	-	-	-	-	-	-	-	-	-	1	2	2	2	3	1	-	-	2	12	8	8	5	-	-	-	-	-	-	-	-	-	-	-	-	-	- 5
24.9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	- 5
25.8	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	- 5
26.8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	- 5
27.8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	- 5
28.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	1	4	1	-	-	-	-	-	-	-	-	-	- 5
29.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 5
30.6	-	-	-	-	-	-	-	-	-	-	-	-	2	3	5	8	8	6	5	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 5

Table 76a

Coronal observations at Climax, Colorado (6704A), east limb

Date GCT	Degrees north of the solar equator																		0°	Degrees south of the solar equator																		P
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
1948																																						
June 1.6	X	X	X	X	-	-	-	-	-	-	-	-	1	2	4	3	2	1	-	-	1	1	2	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-25
2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-15
3.6	X	X	X	X	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-15
4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-15
5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-15
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-15
7.7	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-15
8.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-10
10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
12.7	-	-	-	-	-	-	-	-	-	-	-	1	1	1	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
14.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
16.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-10
17.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-10
18.7	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-10
20.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-5
22.6	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-5
24.9	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	-5
25.8	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-5
26.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	-5
27.8	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	-5
28.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-5
29.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-5
30.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-5

Table 76b

Coronal observations at Climax, Colorado (6704A), west limb

Date GCT	Degrees south of the solar equator																		0°	Degrees north of the solar equator																		P
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
1948																																						
June 1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	-15
2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-15
3.6	-	-	-	-	-	-	-	-	-	-	-	-	1	3	4	3	1	1	1	1	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	-15
4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-15
5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-15
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-15
7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	X	X	X	X	X	X	X	-15
8.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	1	2	3	2	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-10
10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-10
12.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-10
14.9	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	-	-	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-10
16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
16.6	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
17.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10
18.7	-	-	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	-10
20.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 5
22.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 5
24.9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	- 5
25.8	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	- 5
26.8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	- 5
27.8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	- 5
28.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 5
29.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 5
30.6	-	-	-	-	-	-	-	-	-	-	-	1	1	2	3	3	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 5

Table 77

Particulars of observations, Climax, Colorado
January-June 1948

Date GCT	Green line threshold intensity at 45°	90°	135°	225°	270°	315°	Obs.	Meas.	Date GCT	Greenline threshold intensity at 45°	90°	135°	225°	270°	315°	Obs.	Meas
1948									1948								
Jan. 1.7	-	6	3	-	-	-	E	E	May 28.9	5	6	-	-	-	-	F	E
5.9	6	6	4	7	-	-	F	E	30.0	-	11	-	-	-	-	F	E
6.7	4	3	4	4	3	3	F	E	31.0	10	11	12	-	-	-	F	E
7.9	3	3	3	3	4	3	F	E	31.6	13	12	12	-	-	-	F	E
9.9	4	4	7	4	3	3	F	E	June 1.6	6	6	5	5	-	-	F	E
10.7	2	2	2	2	2	2	F	E	2.6	6	5	4	6	6	8	F	E
14.8	3	3	4	3	3	3	W	E	3.6	7	7	6	6	5	-	F	E
30.8	4	4	4	5	4	4	W	E	4.6	5	4	3	3	4	3	F	E
Feb. 5.8	9	4	5	-	-	-	W	E	5.7	6	5	4	6	4	4	F	E
8.8	2	3	2	2	2	2	W	E	6.7	6	6	6	5	5	4	F	E
15.8	2	4	4	2	2	2	W	E	7.7	8	9	11	8	6	-	F	E
17.8	6	6	3	5	5	5	W	E	8.6	8	6	5	6	5	4	F	E
Mar. 11.8	3	3	2	3	4	3	W	E	10.6	6	6	6	11	7	6	F	E
12.7	3	3	3	2	3	4	W	E	12.7	5	5	6	8	5	4	F	E
Apr. 2.7	5	3	2	3	3	3	W	E	13.7	9	9	9	8	8	7	F	E
28.7	3	5	3	4	4	3	W	E	14.9	8	9	9	6	7	8	F	E
29.8	5	5	6	7	6	5	W	E	16.0	13	12	11	13	15	12	F	E
30.7	4	5	4	5	5	5	W	E	16.6	6	6	6	8	6	6	F	E
May 6.8	7	6	10	8	6	7	F	E	17.6	8	7	7	10	11	11	F	E
7.6	8	7	7	9	9	8	F	E	18.7	11	10	15	-	15	-	F	E
13.6	11	10	9	12	15	-	F	E	20.9	12	13	-	10	10	14	F	E
14.7	15	8	12	10	11	7	F	E	22.6	5	5	5	6	5	5	F	E
15.7	8	7	7	7	7	6	F	E	24.9	9	5	-	-	-	-	F	E
16.7	7	7	7	9	7	7	F	E	25.8	5	6	6	-	-	-	F	E
19.6	10	10	8	10	9	13	F	E	26.8	6	8	-	-	-	-	F	E
20.7	10	10	10	9	10	9	F	E	27.8	6	-	-	-	-	-	F	E
21.6	14	14	13	13	13	11	F	E	28.8	7	7	6	6	5	8	F	E
22.7	7	6	8	6	7	7	F	E	29.7	7	7	7	10	9	10	F	E
23.6	8	7	7	7	7	6	F	E	30.6	5	5	5	8	6	6	F	E

E = J.W. Evans
F = W. Fleming
W = M. Warner

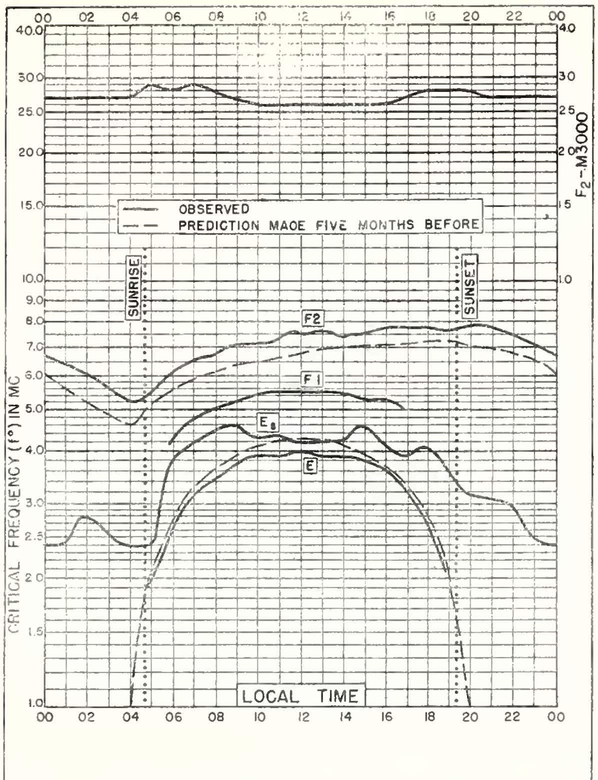

Fig. I. WASHINGTON, D. C.
39. 0°N, 77. 5°W JUNE 1948

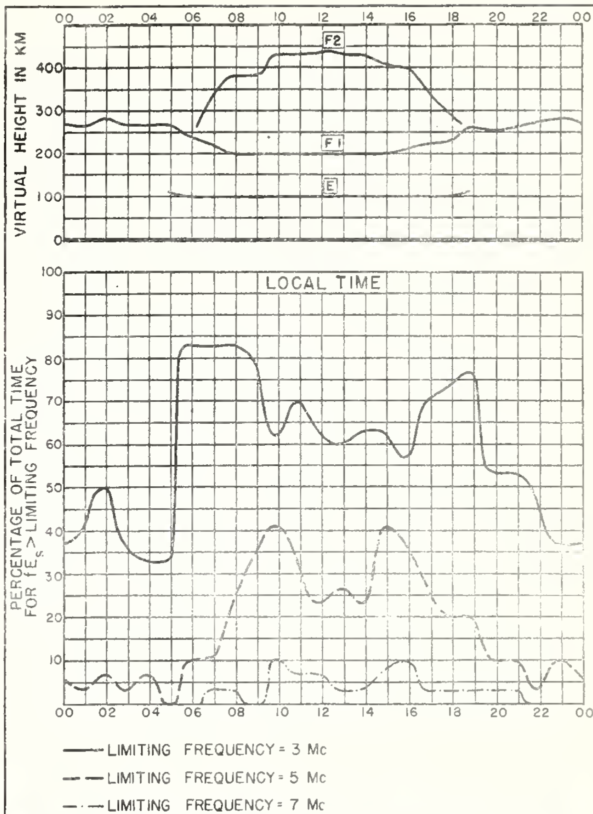

Fig. 2. WASHINGTON, D. C. JUNE 1948

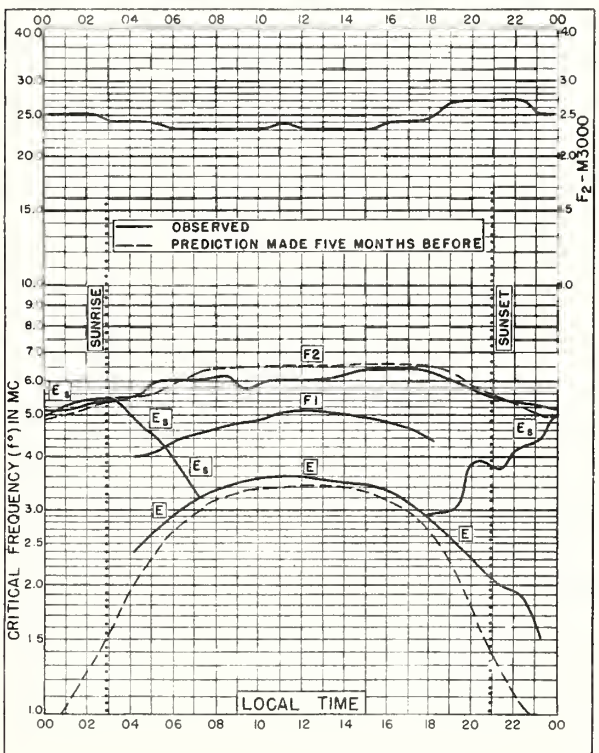

Fig. 3. FAIRBANKS, ALASKA
64.9°N, 147.8°W MAY 1948

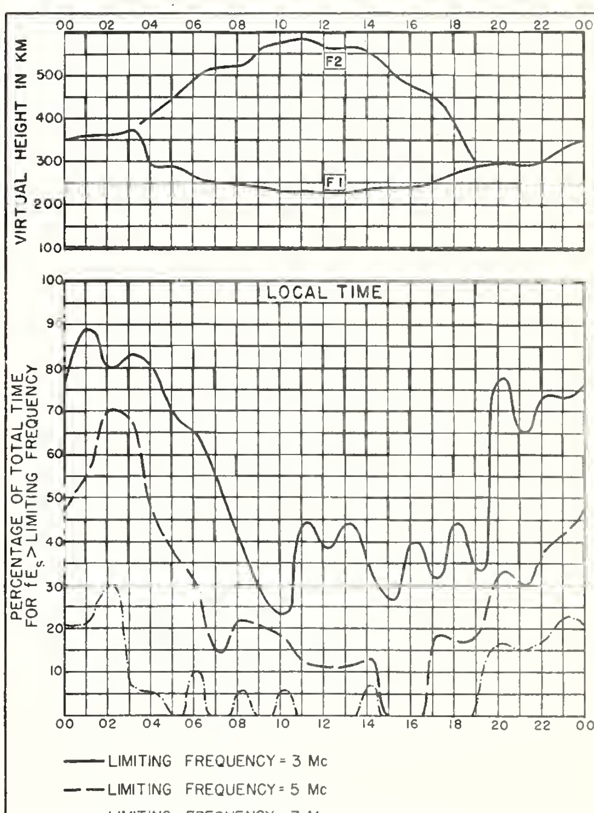

Fig. 4. FAIRBANKS, ALASKA MAY 1948

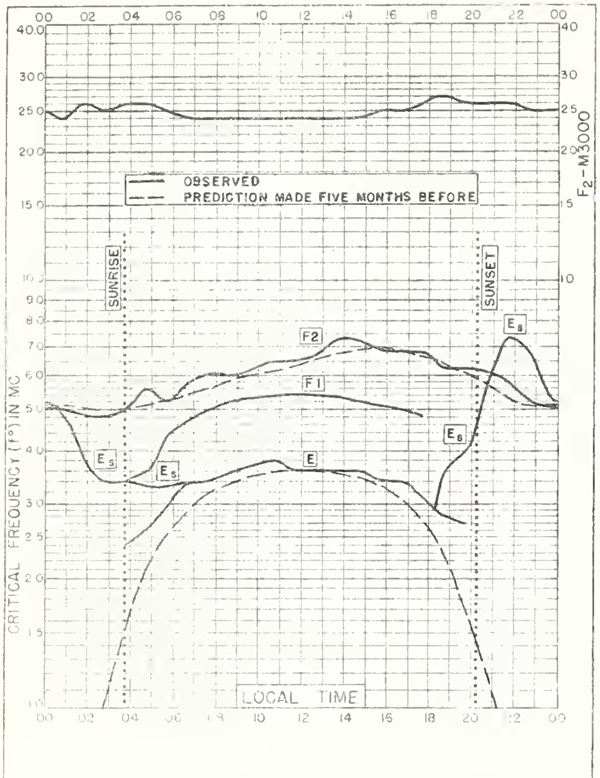

Fig. 5. CHURCHILL, CANADA
58.8°N, 94.2°W MAY 1948

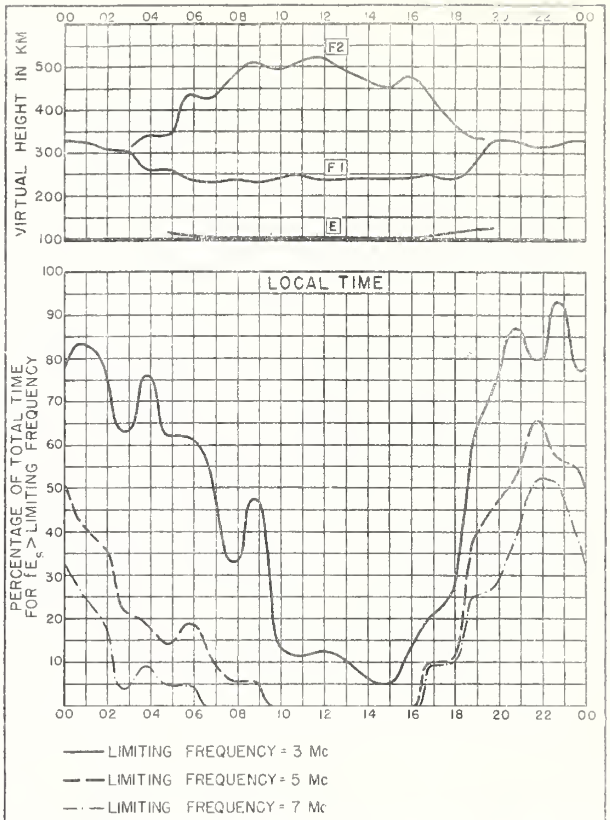

Fig. 6. CHURCHILL, CANADA MAY 1948

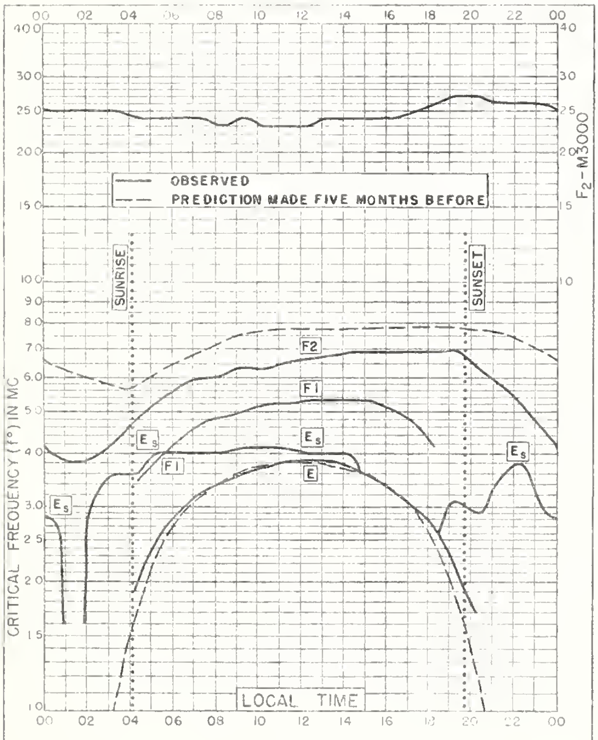

Fig. 7. PRINCE RUPERT, CANADA
54.3°N, 130.3°W MAY 1948

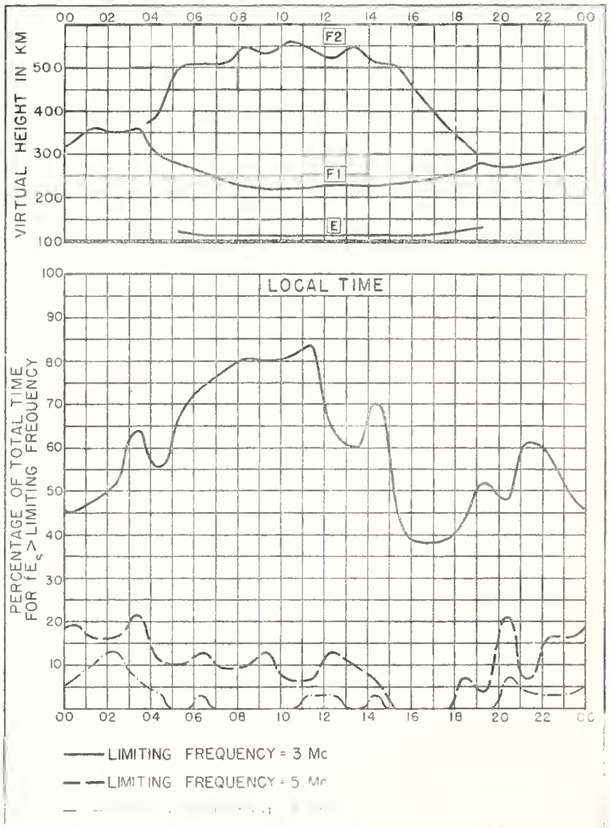

Fig. 8.

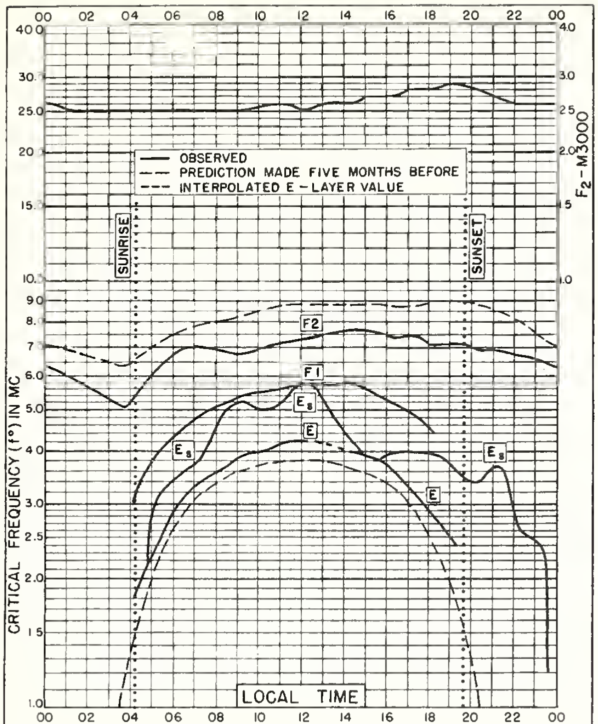

Fig. 9. ADAK, ALASKA
51.9°N, 176.6°W MAY 1948

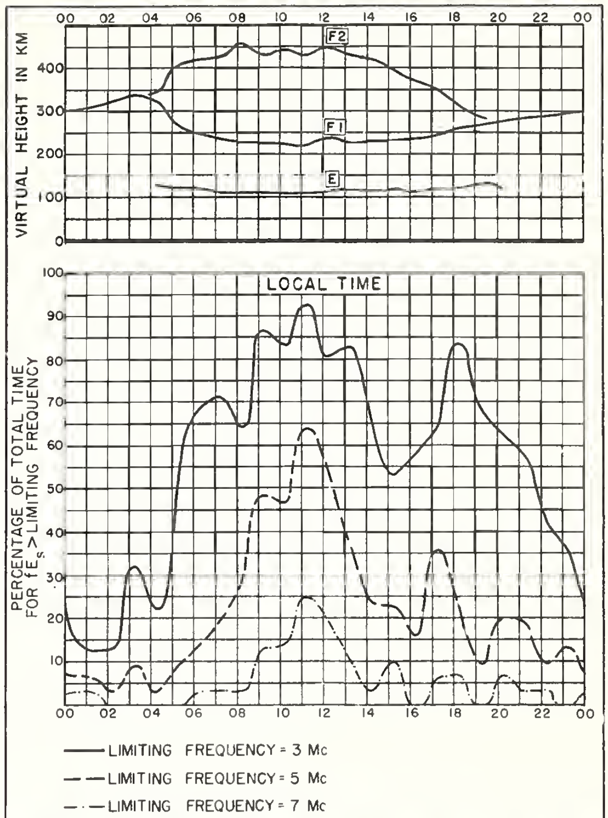

Fig. 10. ADAK, ALASKA MAY 1948

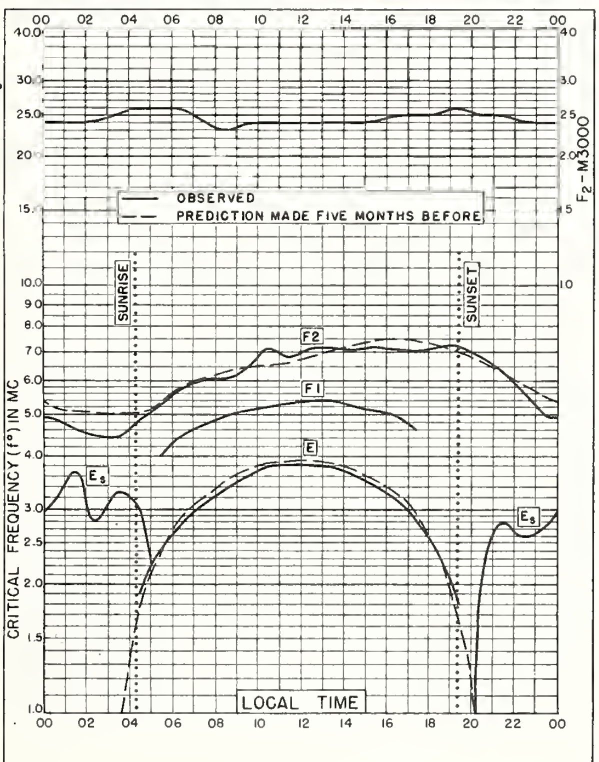

Fig. 11. PORTAGE la PRAIRIE, CANADA
49.9°N, 98.3°W MAY 1948

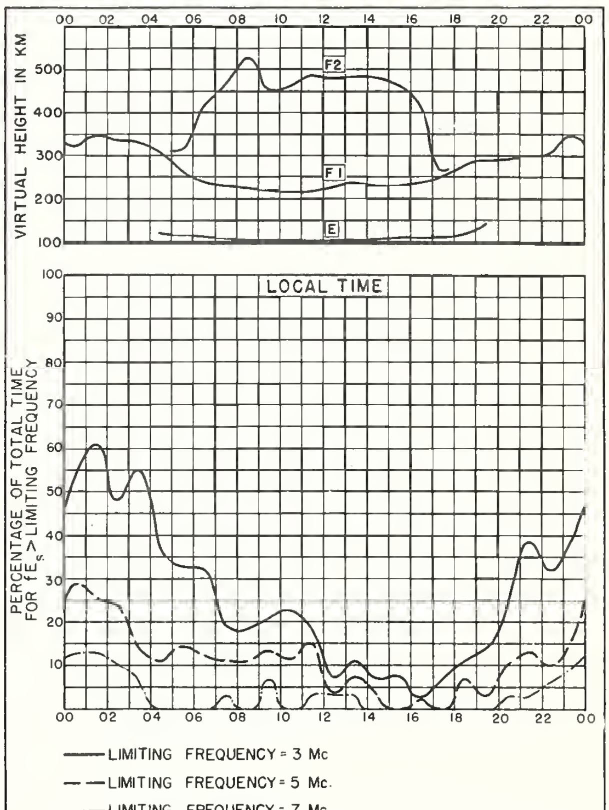

Fig. 12. PORTAGE la PRAIRIE, CANADA MAY 1948

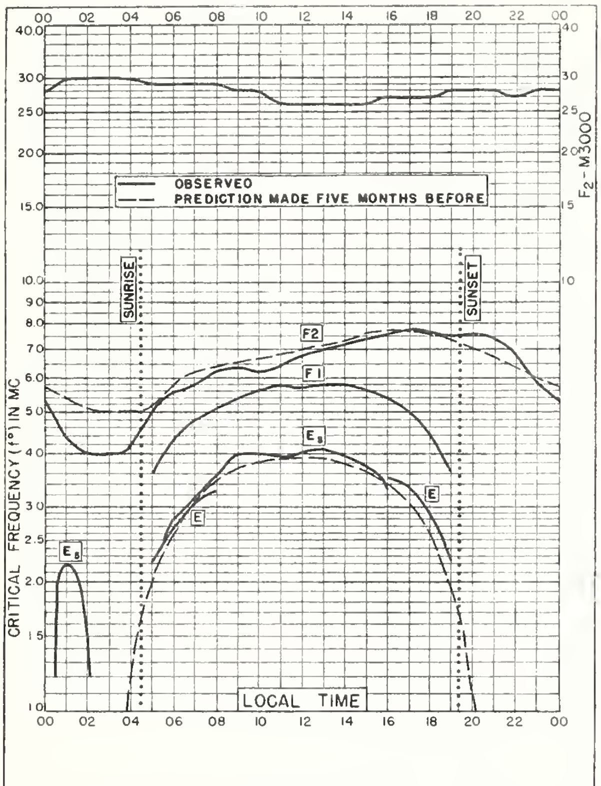

Fig. 13. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W MAY 1948

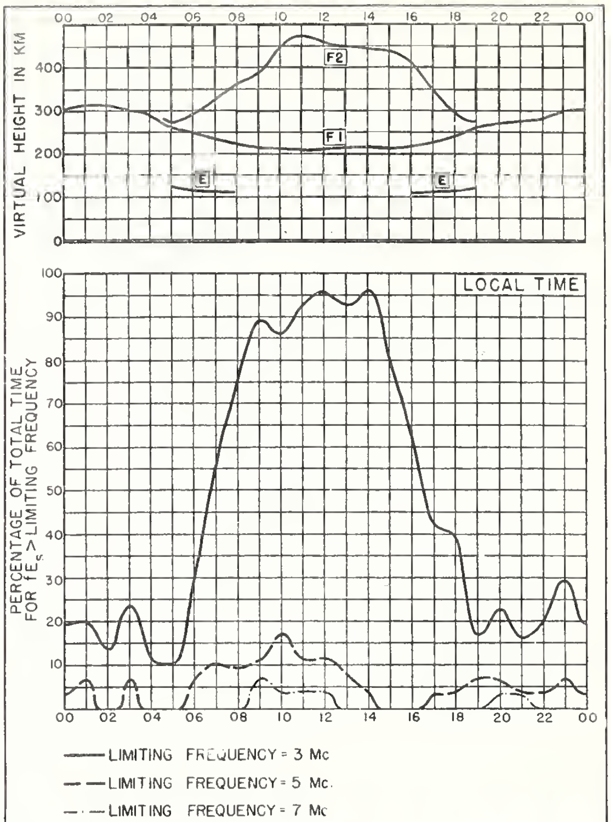

Fig. 14. ST. JOHN'S, NEWFOUNDLAND MAY 1948

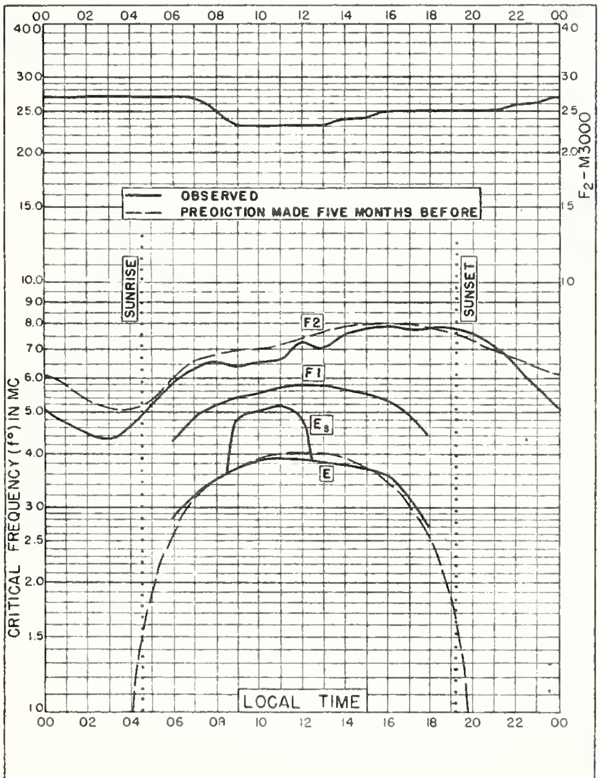

Fig 15. OTTAWA, CANADA
45.5°N, 75.8°W MAY 1948

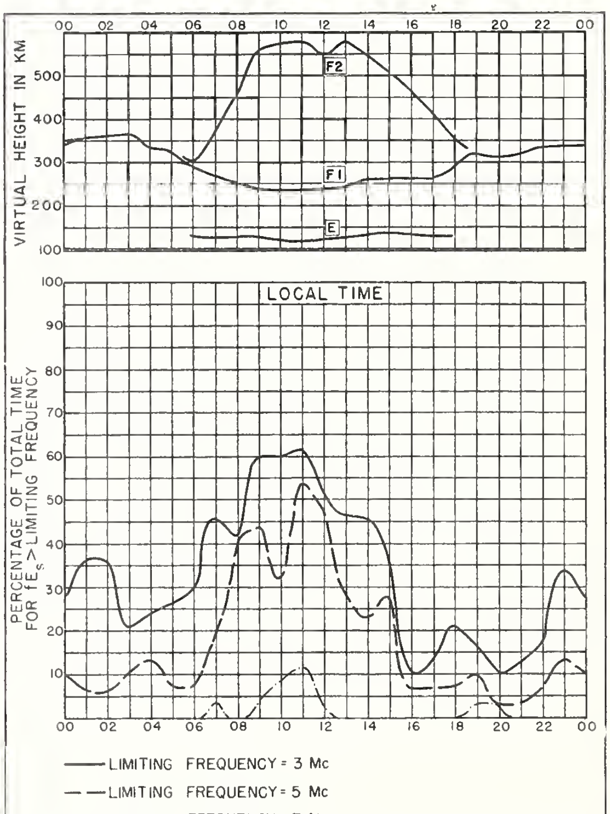

Fig. 16. OTTAWA, CANADA MAY 1948

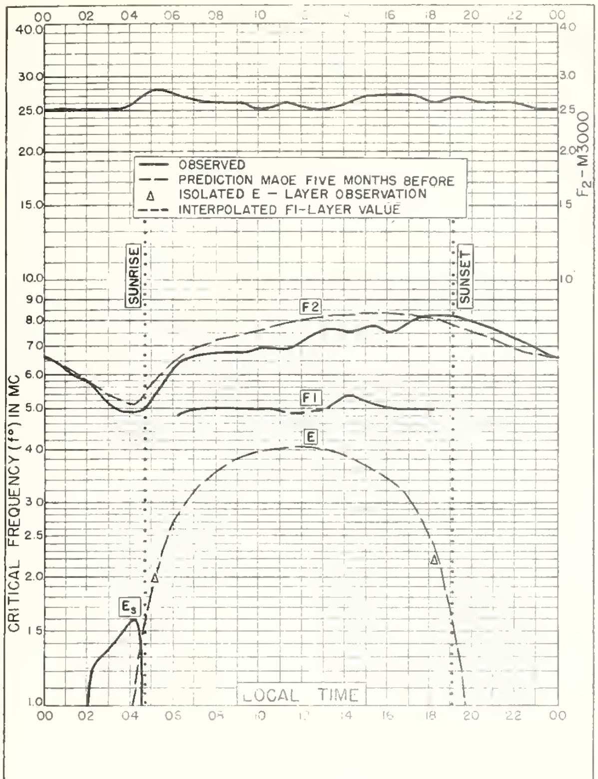

Fig. 17. BOSTON, MASSACHUSETTS
42.4°N, 71.2°W MAY 1948

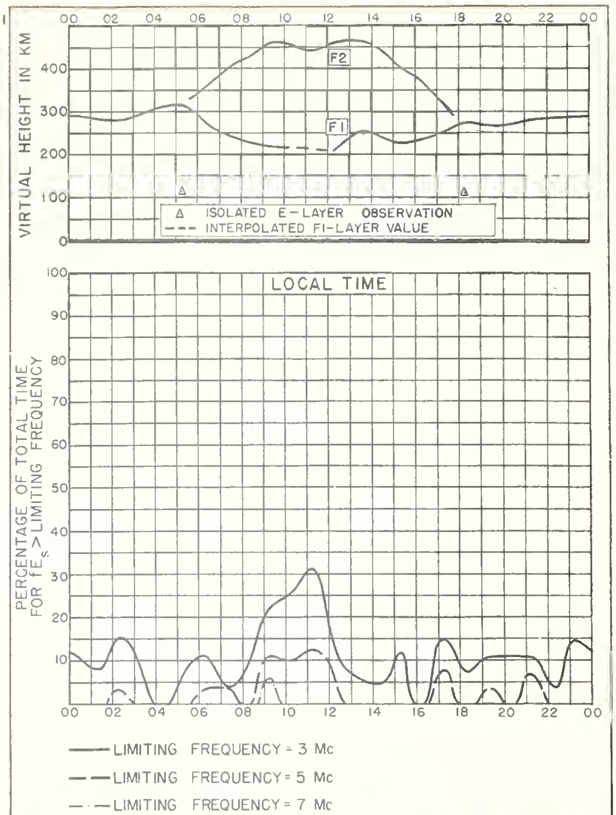

Fig. 18. BOSTON, MASSACHUSETTS MAY 1948

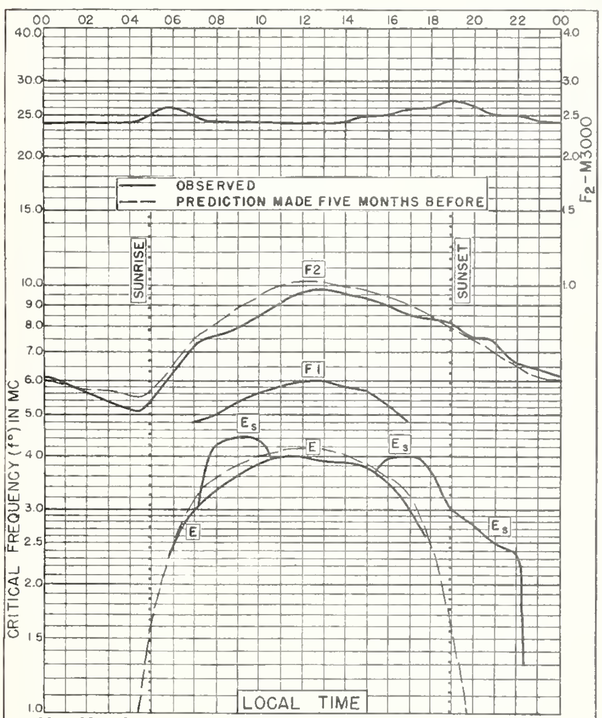

Fig. 19. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W MAY 1948

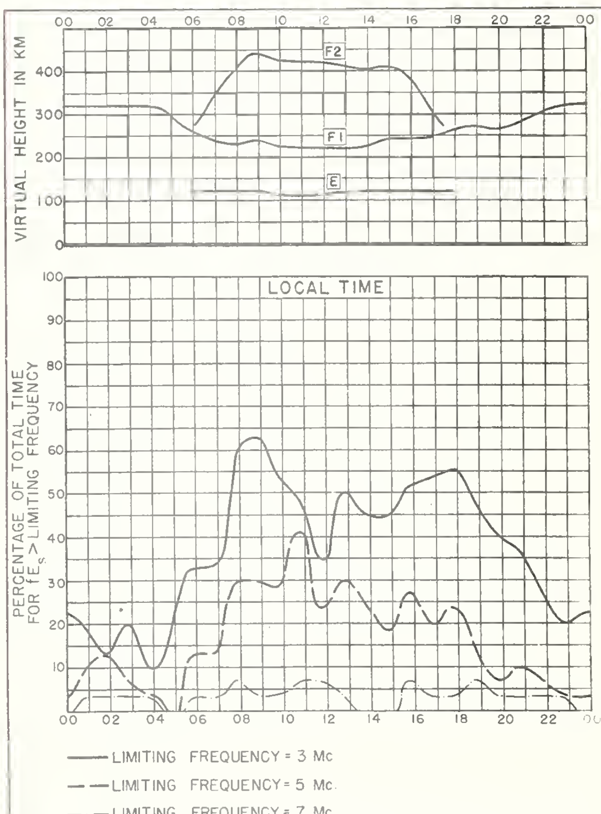

Fig. 20. SAN FRANCISCO, CALIFORNIA MAY 1948

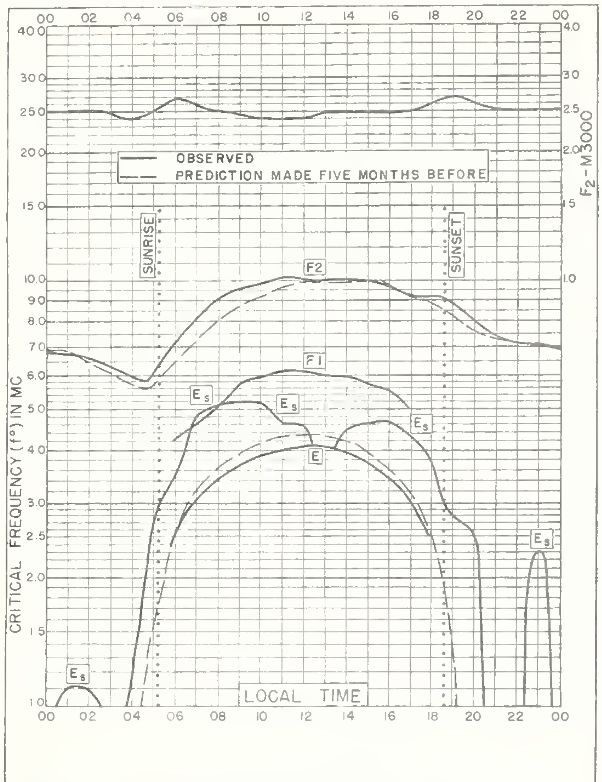

Fig. 21. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W MAY 1948

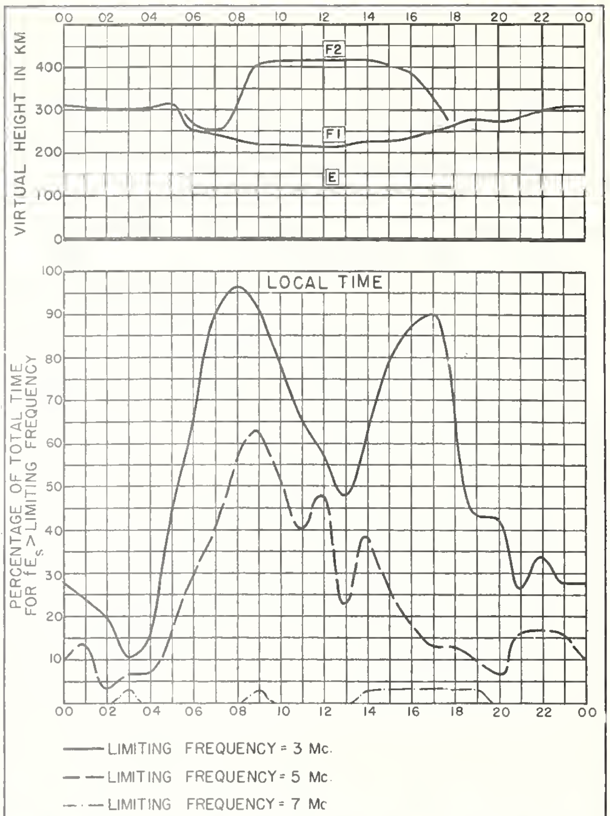

Fig. 22. WHITE SANDS, NEW MEXICO MAY 1948

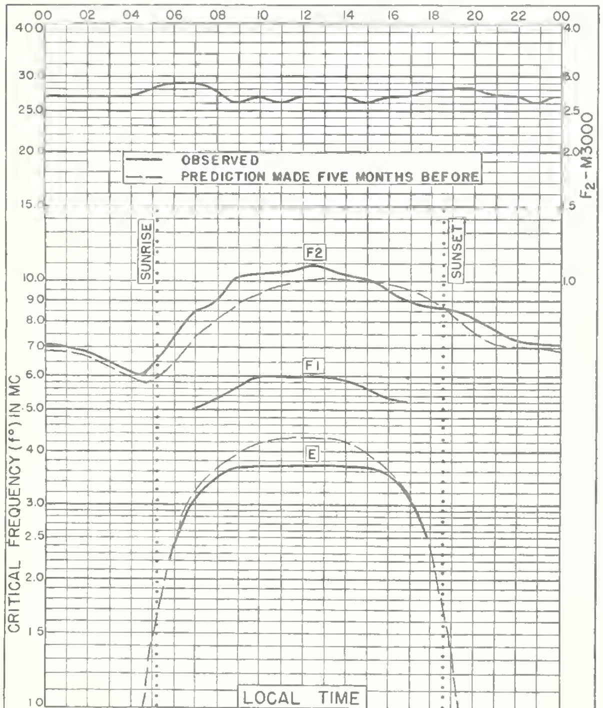

Fig. 23. BATON ROUGE, LOUISIANA
30.5°N, 91.2°W MAY 1948

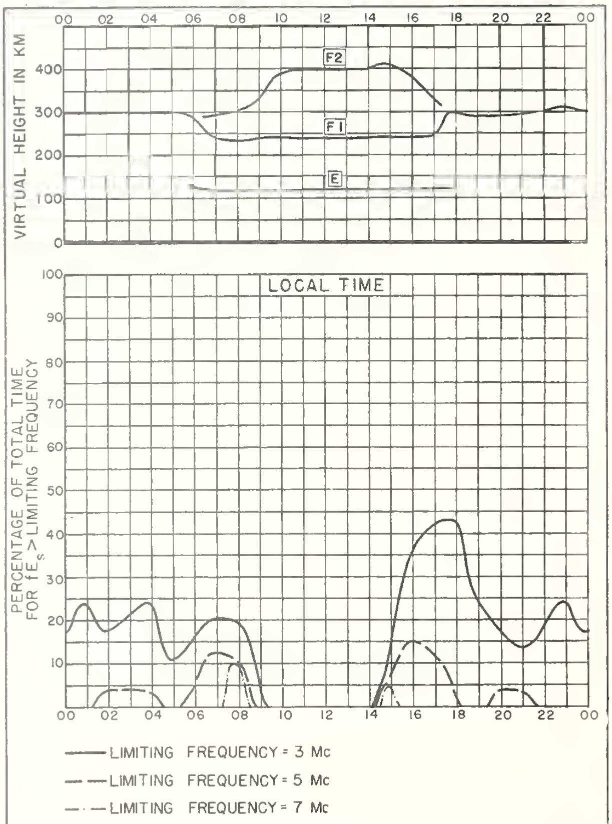

Fig. 24. BATON ROUGE, LOUISIANA MAY 1948

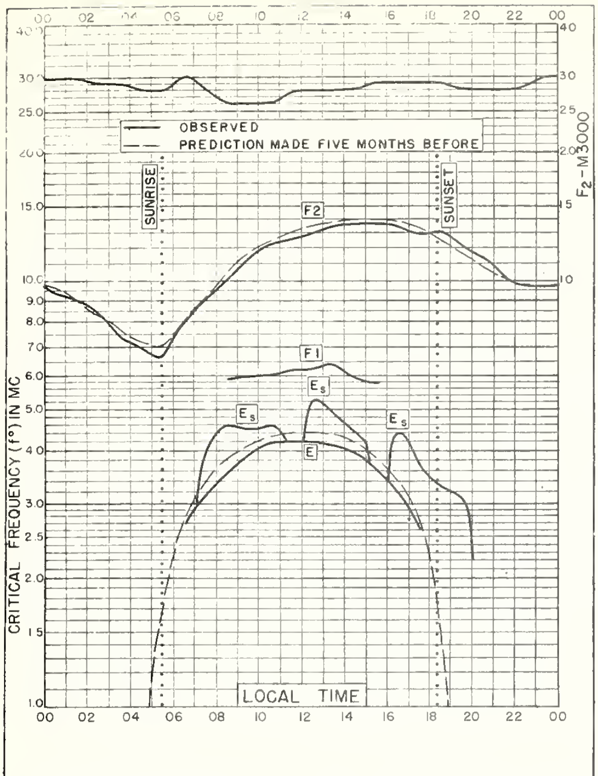

Fig. 25. MAUI, HAWAII
20. 8°N, 156. 5°W MAY 1948

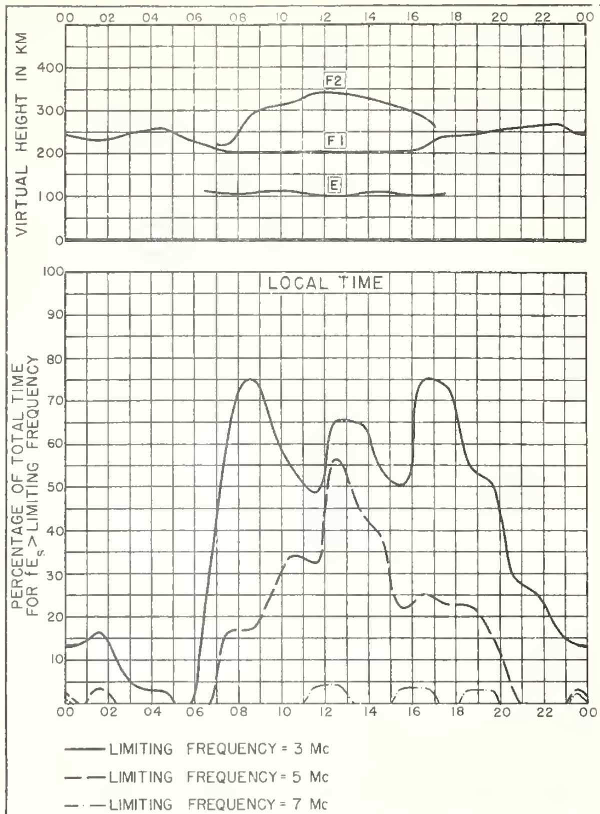

Fig. 26. MAUI, HAWAII MAY 1948

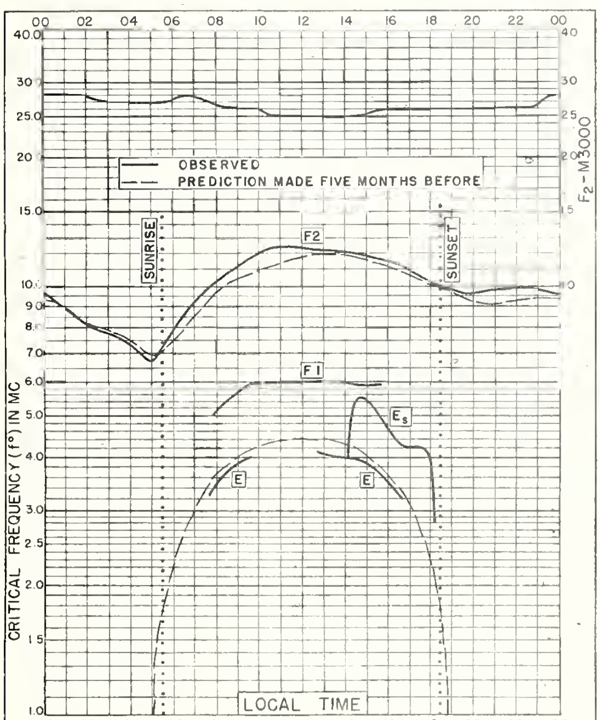

Fig. 27. SAN JUAN, PUERTO RICO
18.4°N, 66.1°W MAY 1948

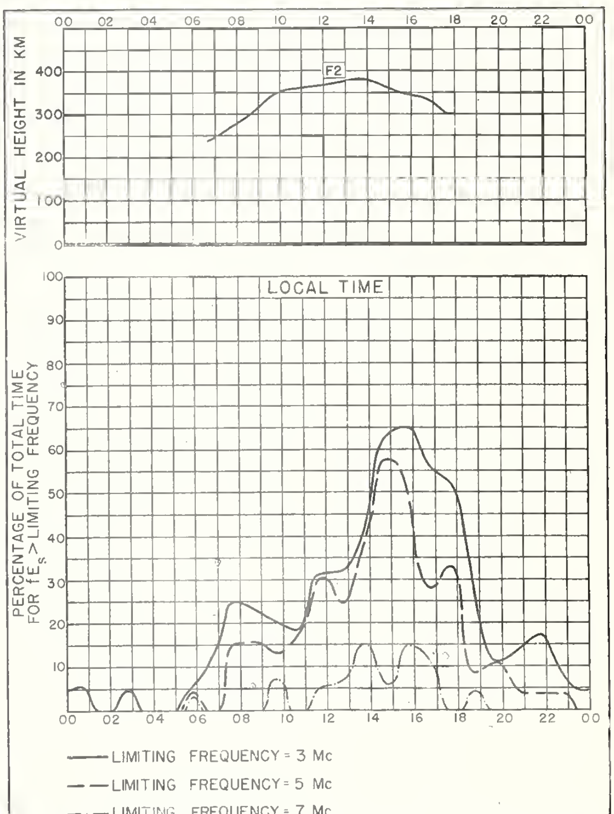

Fig. 28. SAN JUAN, PUERTO RICO MAY 1948

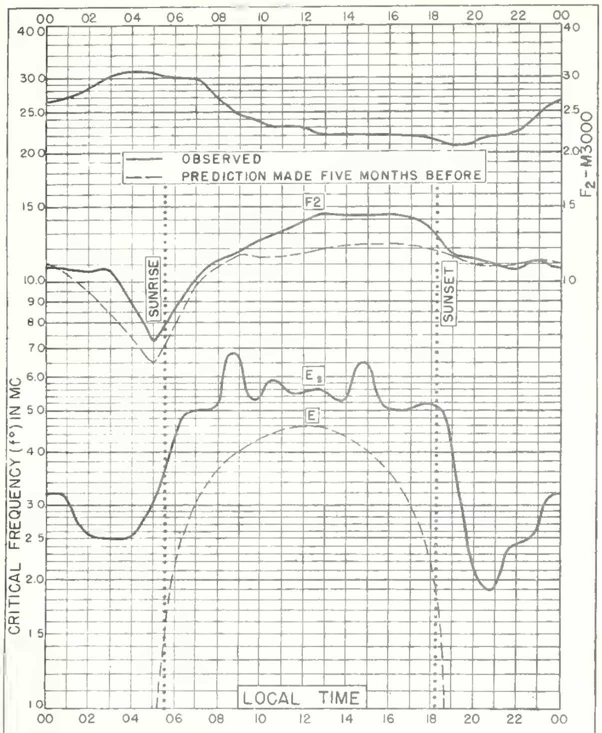

Fig. 29. GUAM I.
13.6°N, 144.9°E MAY 1948

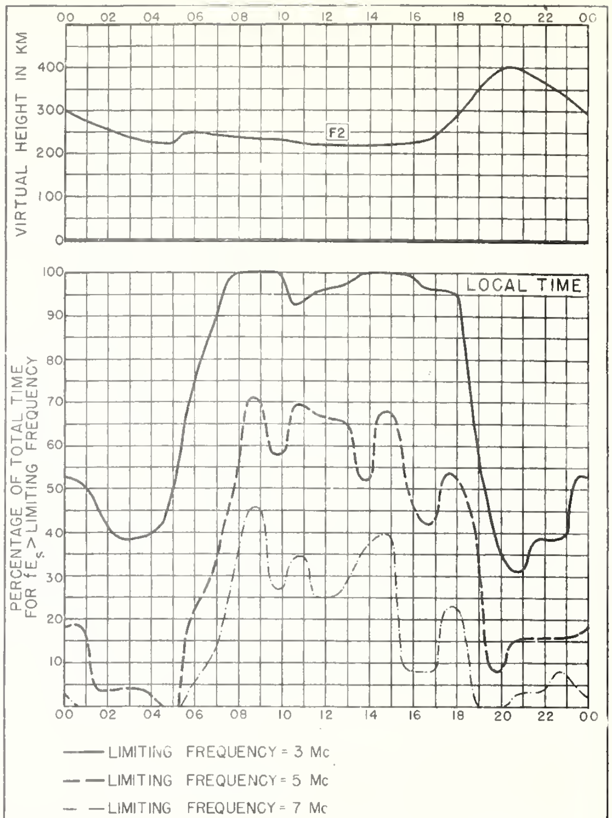

Fig. 30. GUAM I. MAY 1948

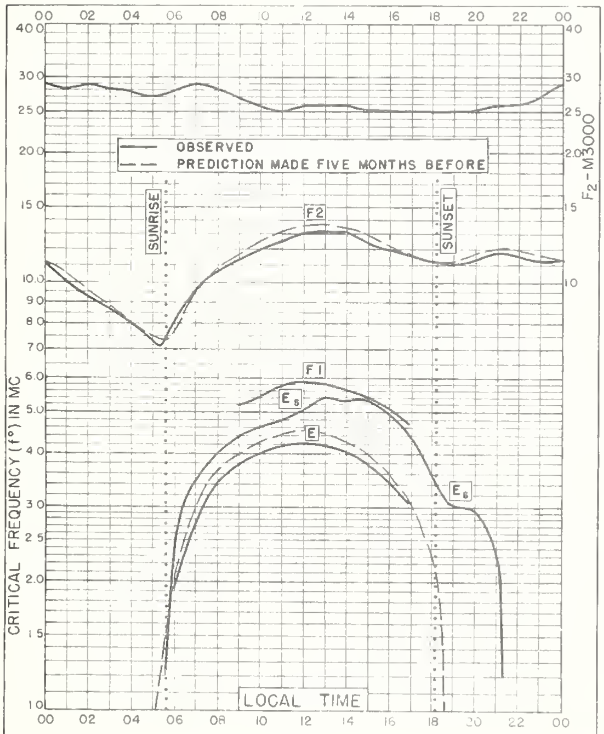

Fig. 31. TRINIDAD, BRIT. WEST INDIES
10.6°N, 61.2°W MAY 1948

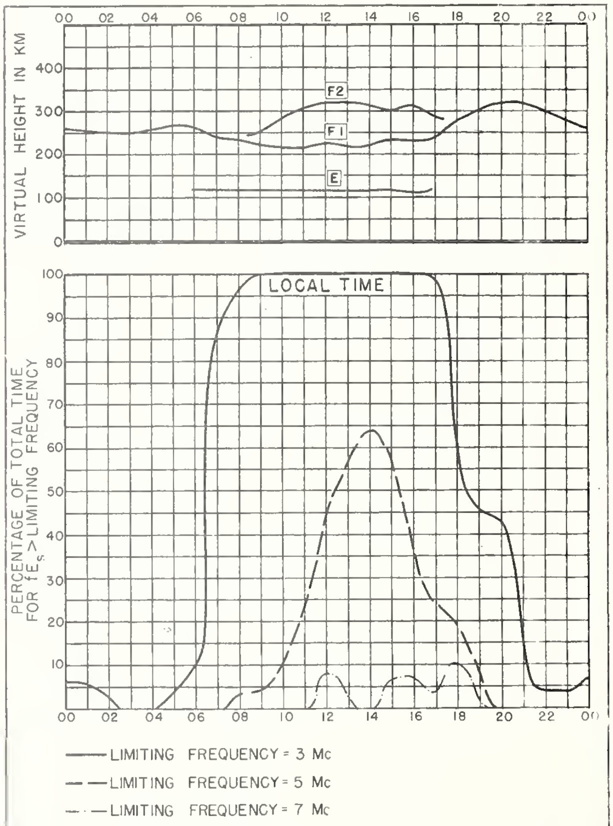

Fig. 32. TRINIDAD, BRIT. WEST INDIES MAY 1948

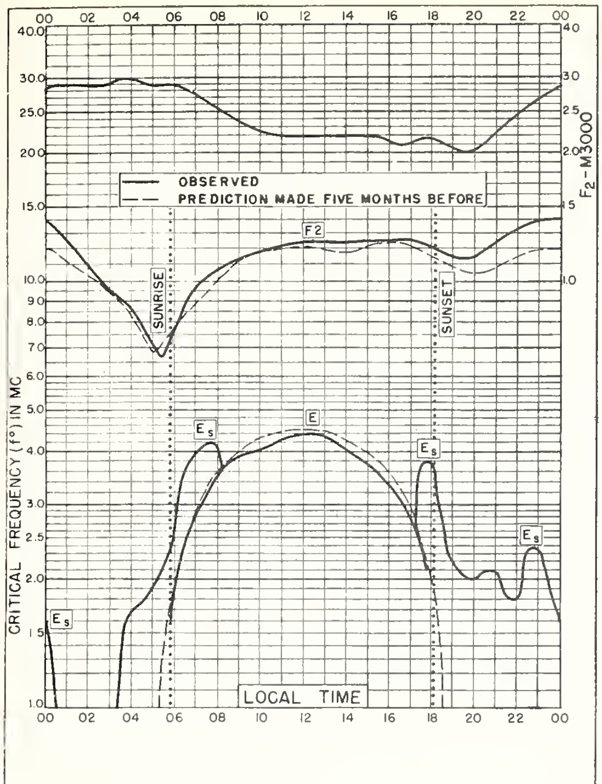

Fig. 33. PALMYRA I.
5.9°N, 162.1°W MAY 1948

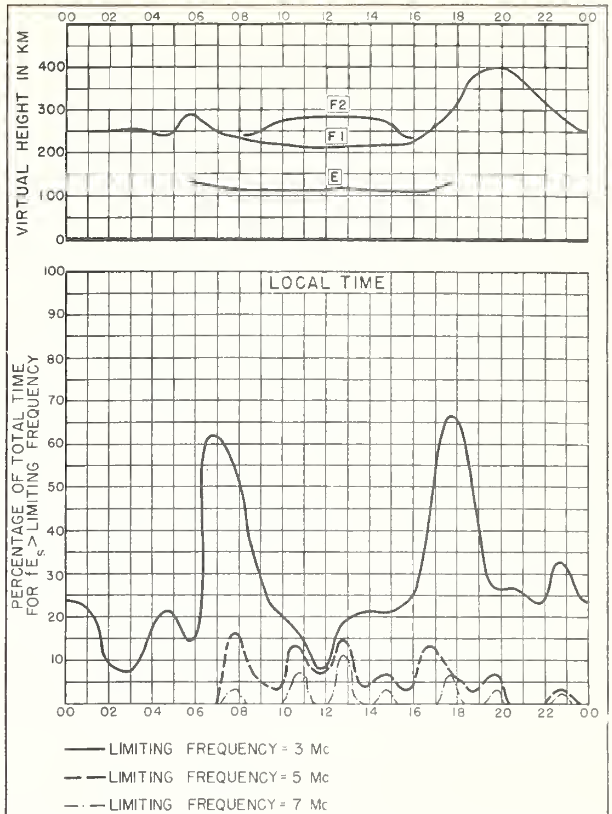

Fig. 34. PALMYRA I. MAY 1948

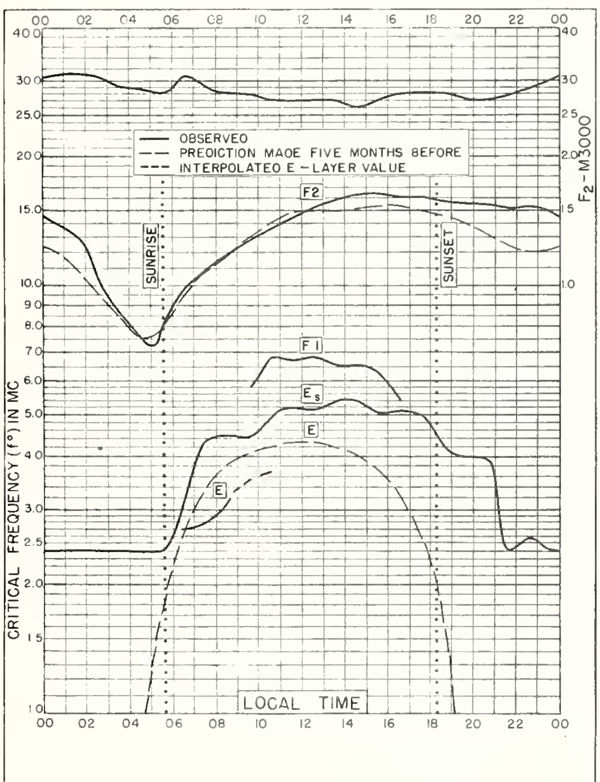

Fig. 35. OKINAWA I.
26.3°N, 127.7°E APRIL 1948

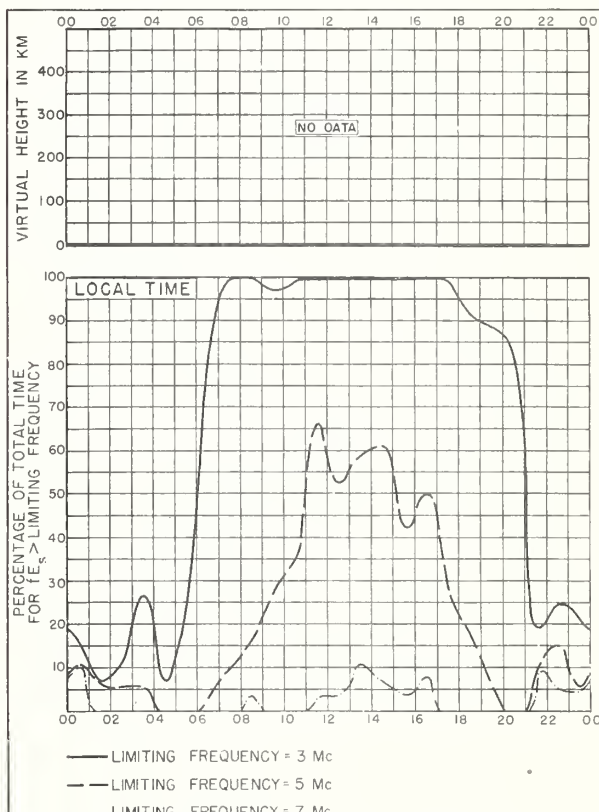

Fig. 36. OKINAWA I. APRIL 1948

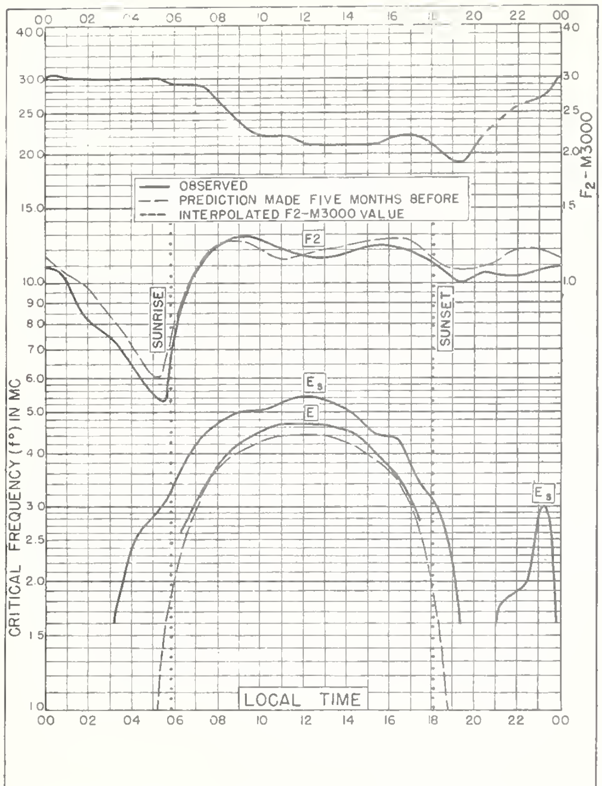

Fig 37. LEYTE, PHILIPPINE IS.
11.0°N, 125.0°E APRIL 1948

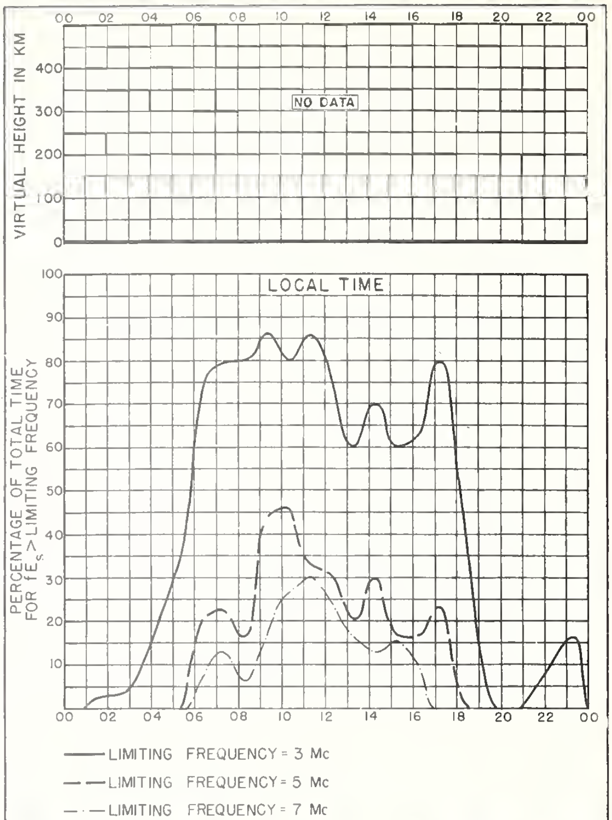

Fig. 38. LEYTE, PHILIPPINE IS. APRIL 1948

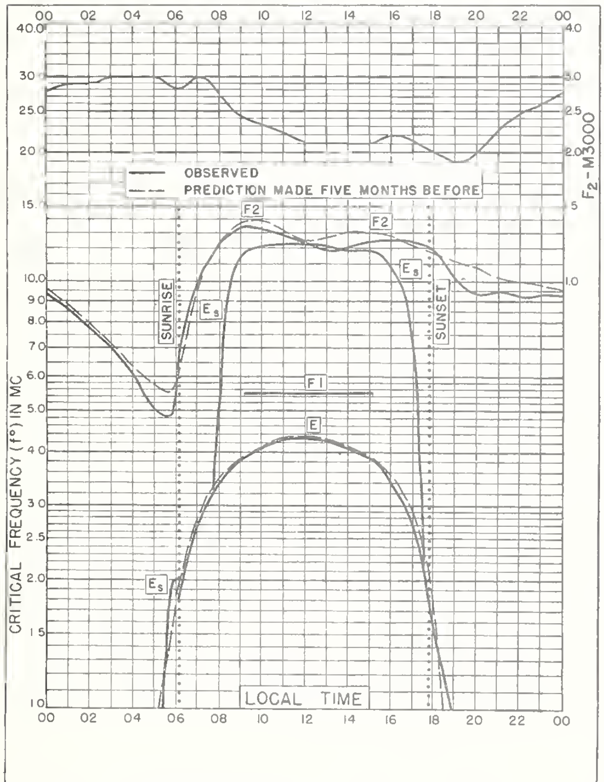

Fig 39. HUANCAYO, PERU
12.0°S, 75.3°W APRIL 1948

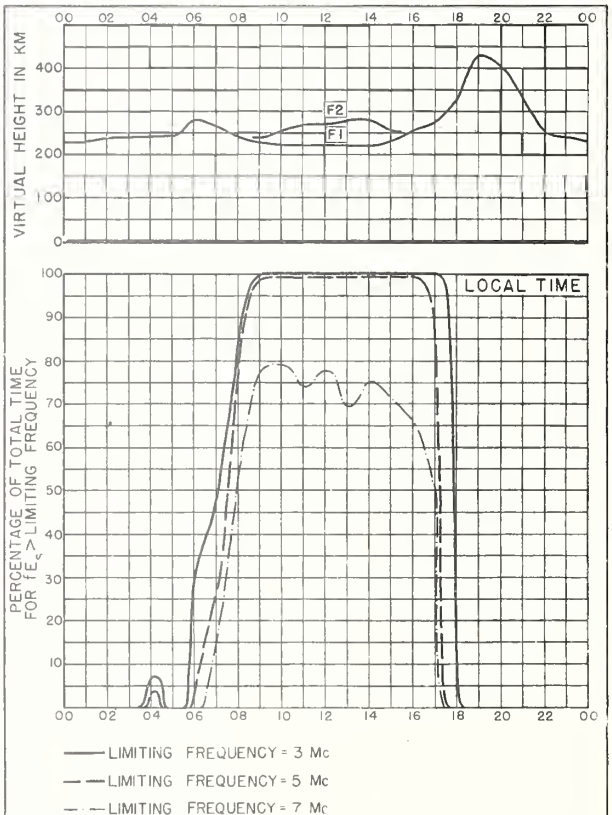

Fig 40. HUANCAYO, PERU APRIL 1948

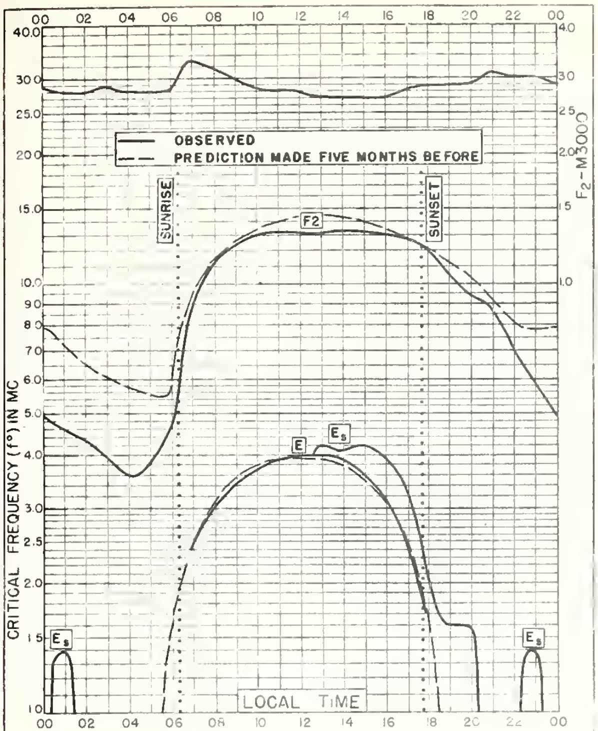

Fig. 41. JOHANNESBURG, U. OF S. AFRICA
26.2°S, 28.0°E APRIL 1948

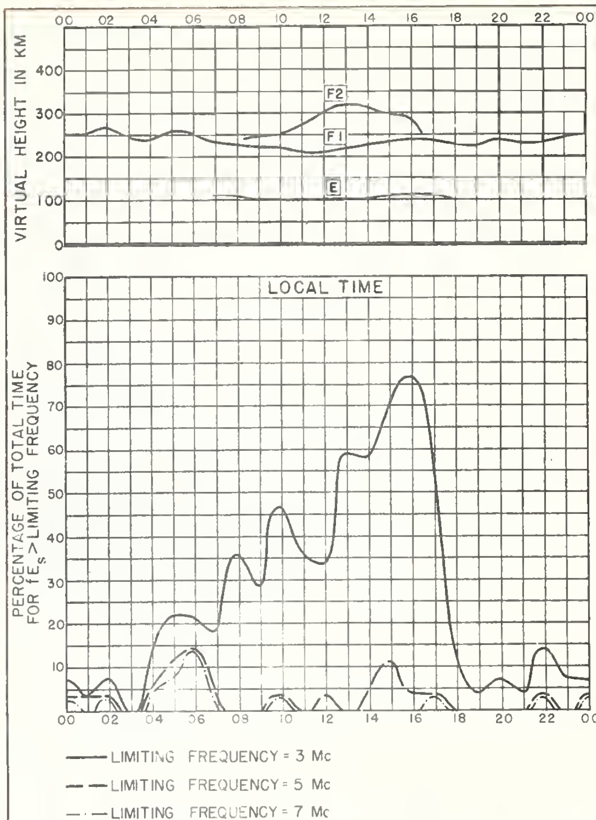

Fig. 42. JOHANNESBURG, U. OF S. AFRICA APRIL 1948

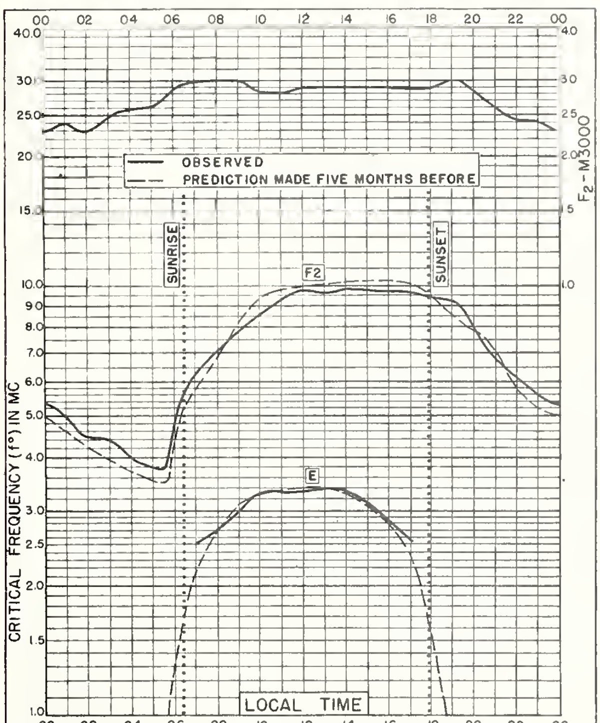

Fig. 43. FRASERBURGH, SCOTLAND
57.6°N, 2.1°W MARCH 1948

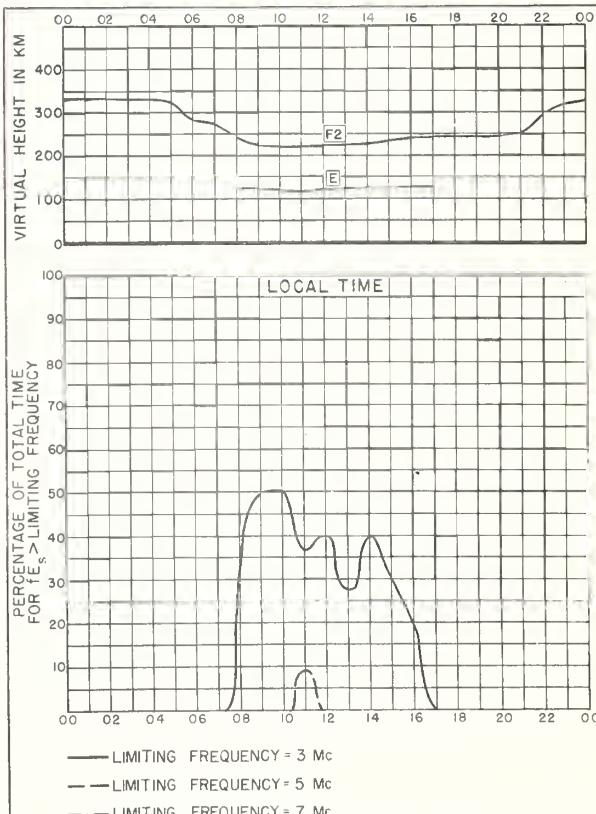

Fig. 44. FRASERBURGH, SCOTLAND MARCH 1948

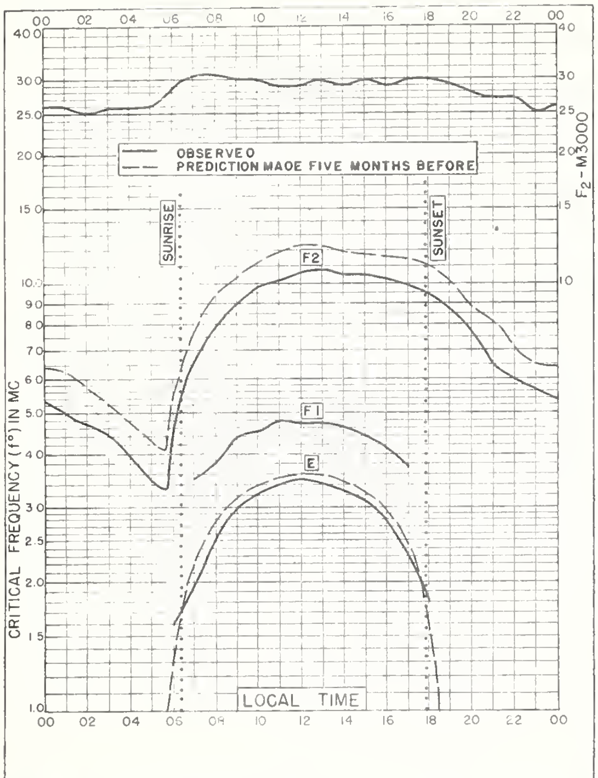

Fig. 45. SLOUGH, ENGLAND
51.5°N, 0.6°W MARCH 1948

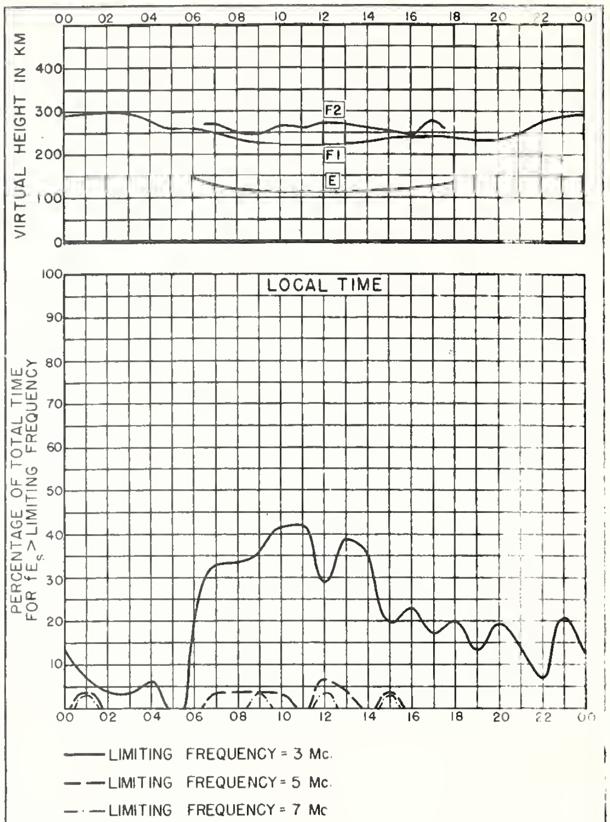

Fig. 46. SLOUGH, ENGLAND MARCH 1948

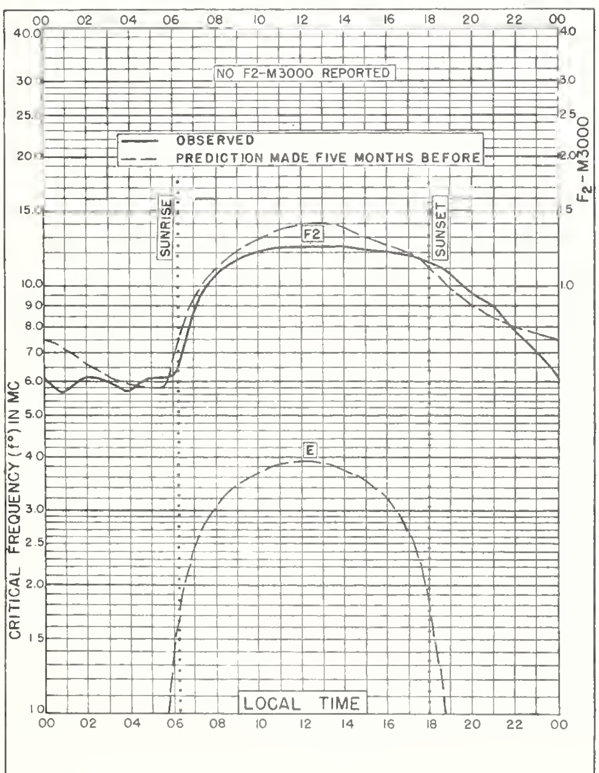

Fig. 47. PEIPING, CHINA
39.9°N, 116.4°E MARCH 1943

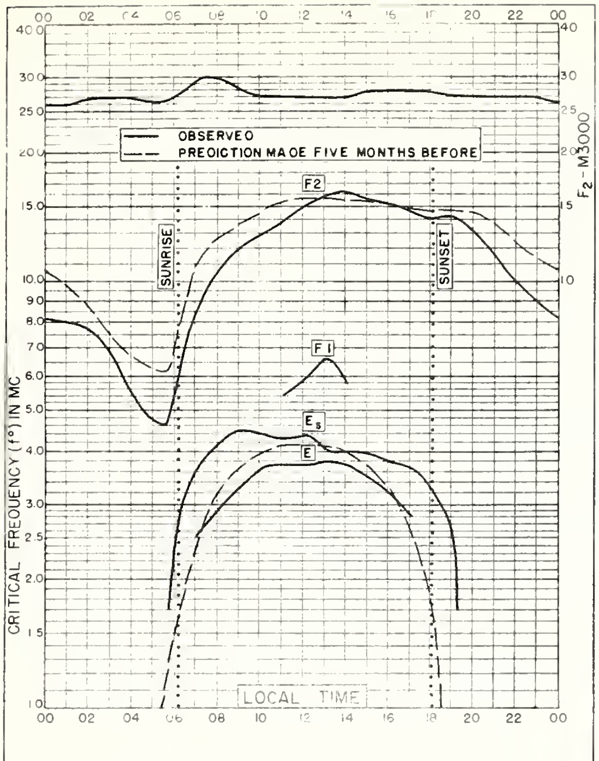

Fig. 48. CHUNGKING, CHINA
29.4°N, 106.8°E MARCH 1948

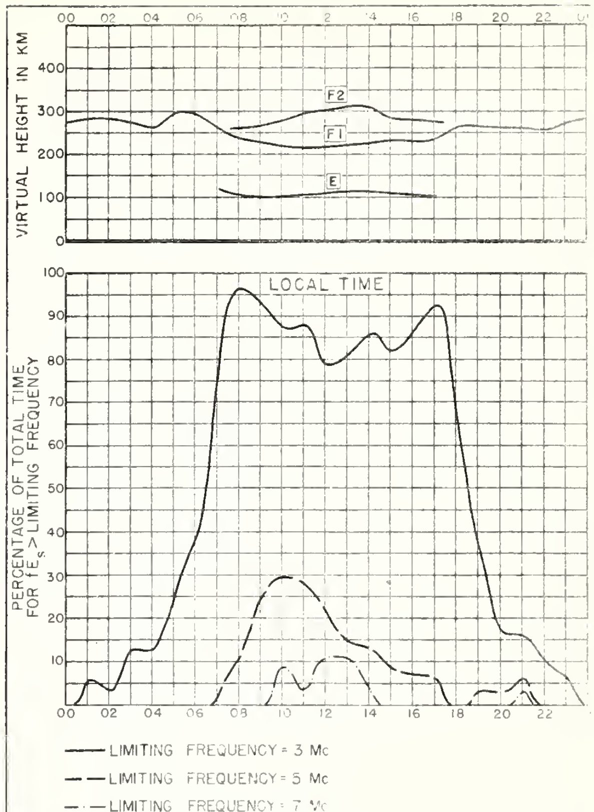

Fig. 49. CHUNGKING, CHINA MARCH 1948

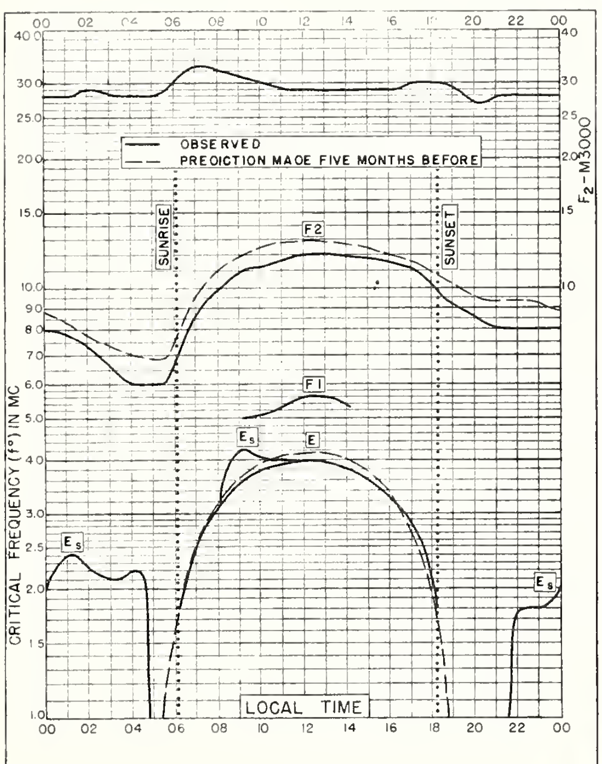

Fig. 50. BRISBANE, AUSTRALIA
27.5°S, 153.0°E MARCH 1948

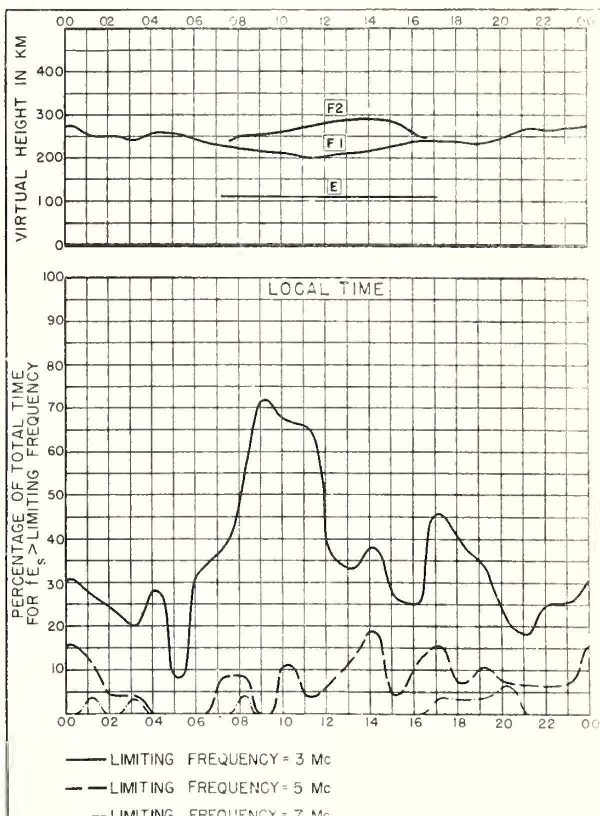

Fig. 51. BRISBANE, AUSTRALIA MARCH 1948

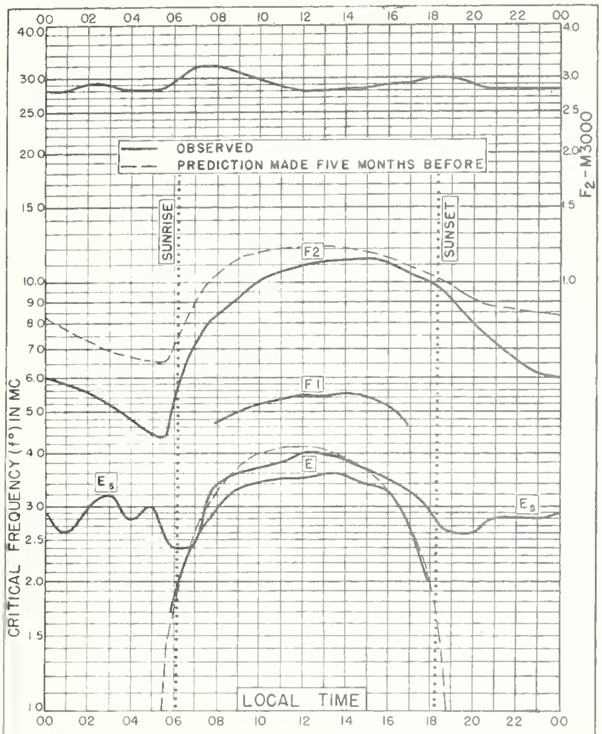

Fig 52. WATHEROO, W AUSTRALIA
30.3°S, 115.9°E MARCH 1948

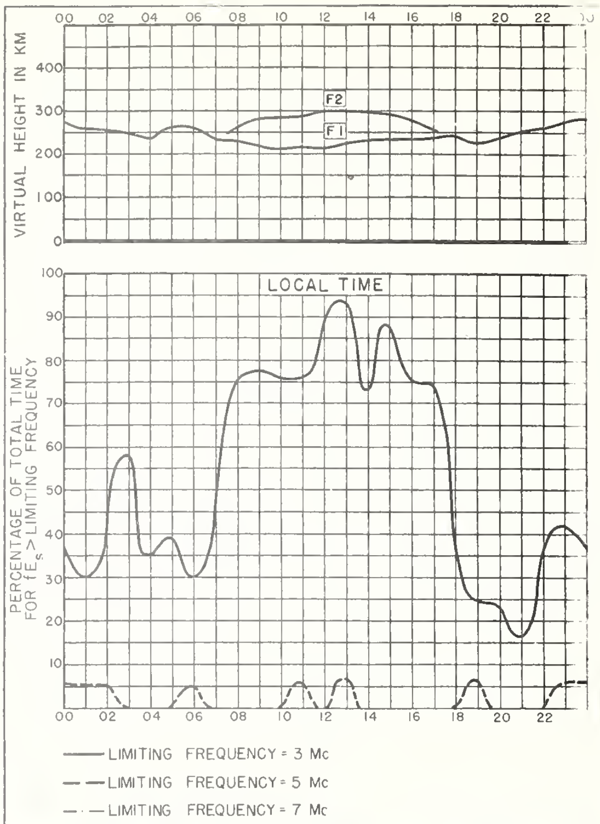

Fig. 53. WATHEROO W. AUSTRALIA MARCH 1948

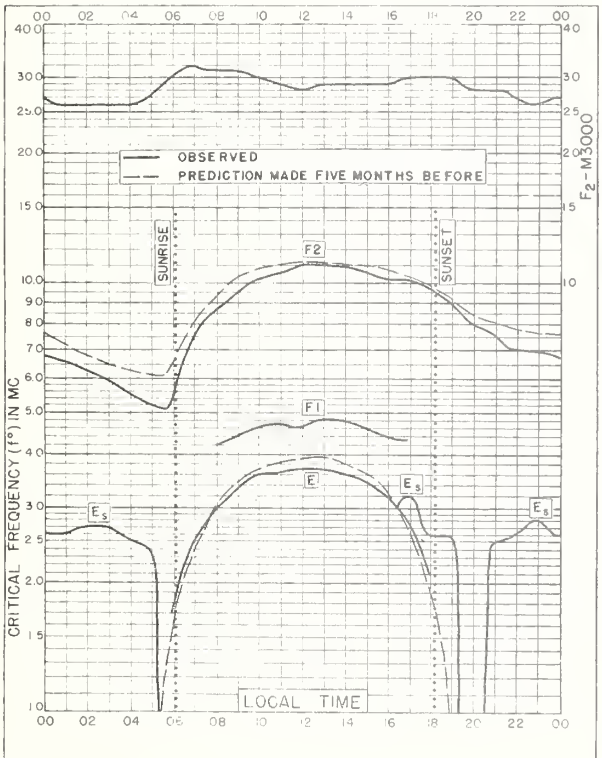

Fig 54. CANBERRA, AUSTRALIA
35.3°S, 149.0°E MARCH 1948

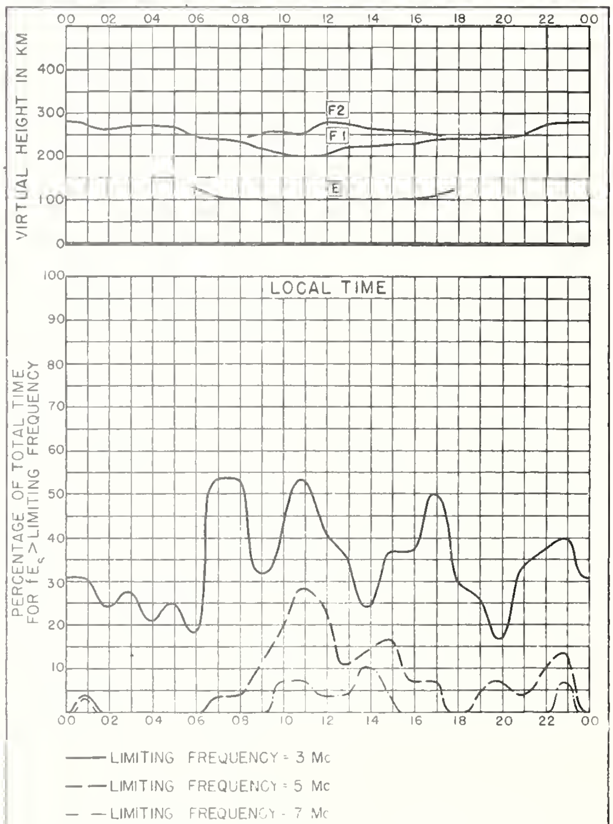

Fig. 55. CANBERRA, AUSTRALIA MARCH 1948

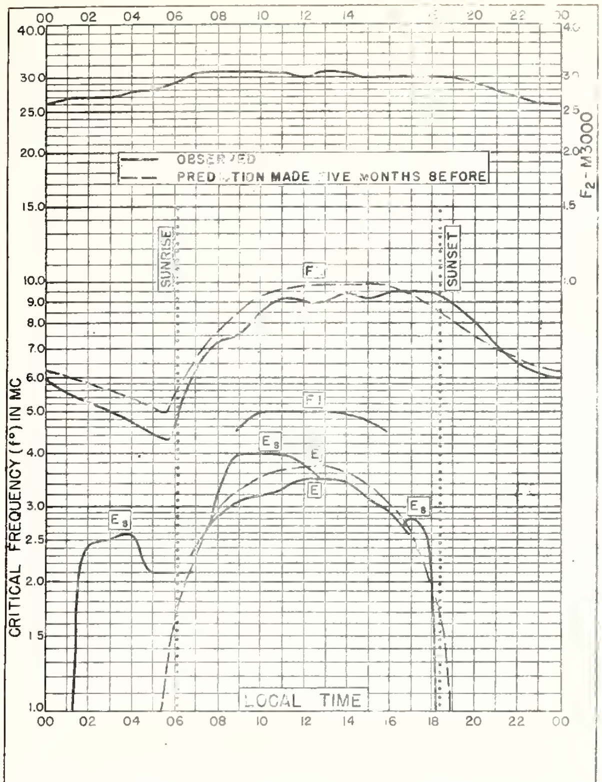

Fig. 56. HOBART, TASMANIA
42.8°S, 147.4°E MARCH 1948

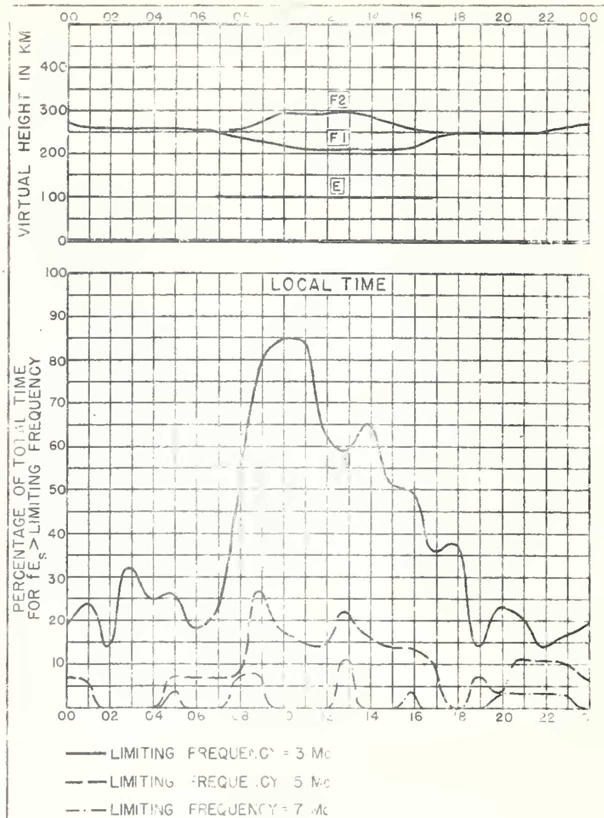

Fig. 57. HOBART, TASMANIA MARCH 1948

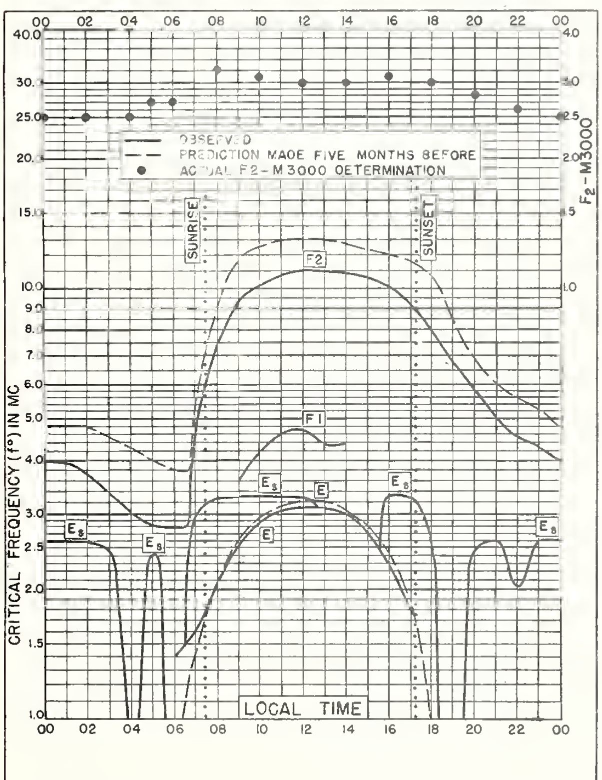

Fig. 58. SLOUGH, ENGLAND
51.5°N, 0.6°W FEBRUARY 1948

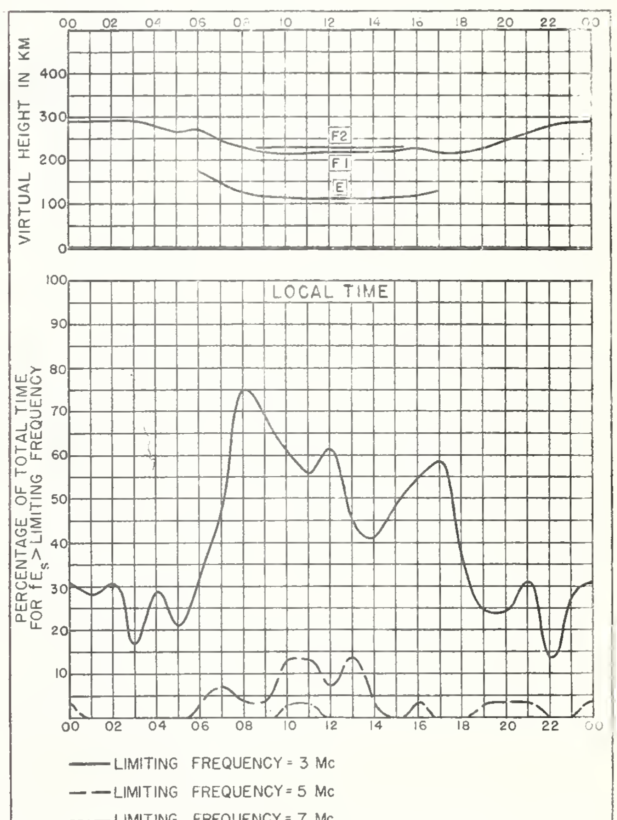

Fig. 59. SLOUGH, ENGLAND FEBRUARY 1948

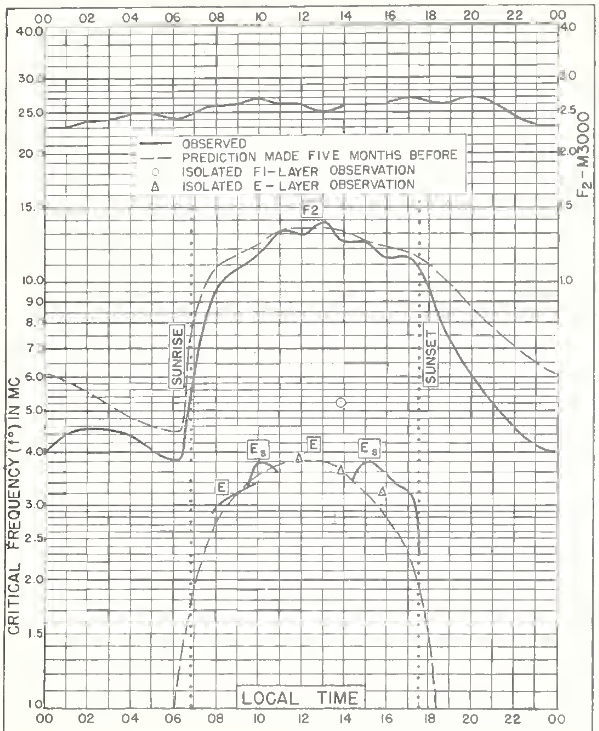

Fig. 60. LANCHOW, CHINA
36.1°N, 103.8°E FEBRUARY 1948

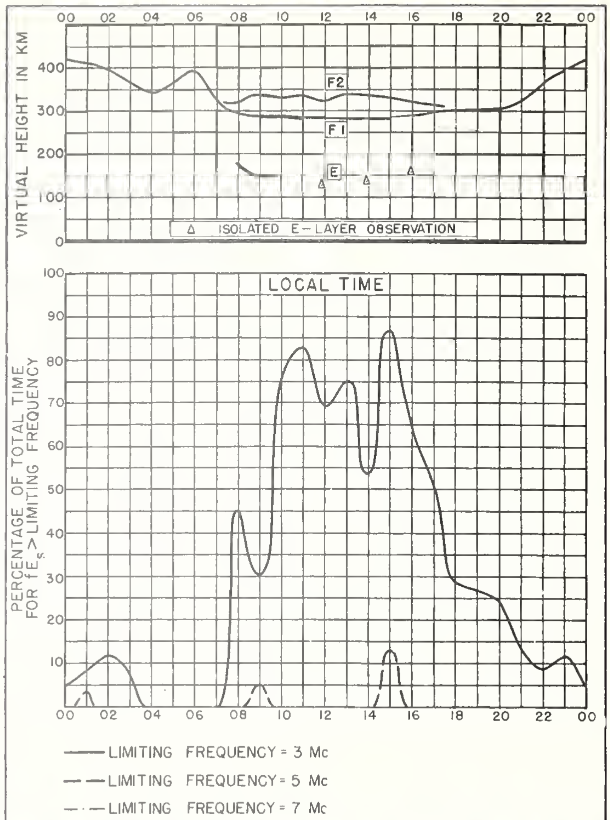

Fig. 61. LANCHOW, CHINA FEBRUARY 1948

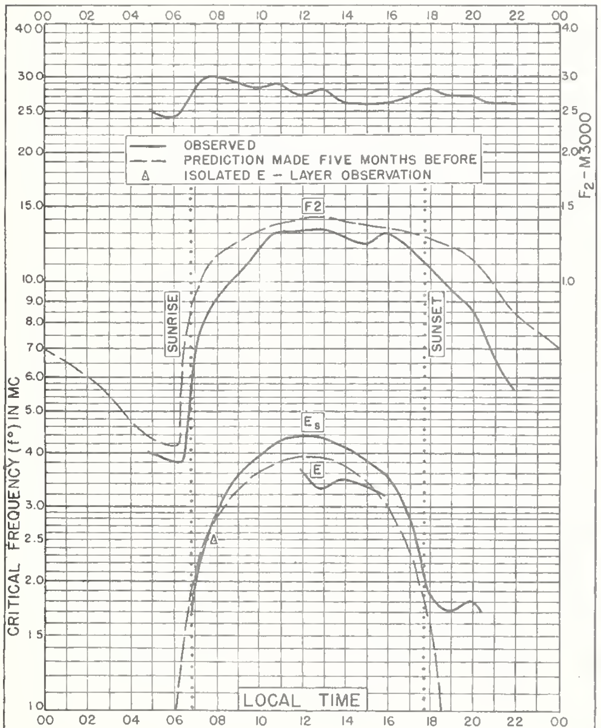

Fig. 62. NANKING, CHINA
32.1°N, 119.0°E FEBRUARY 1948

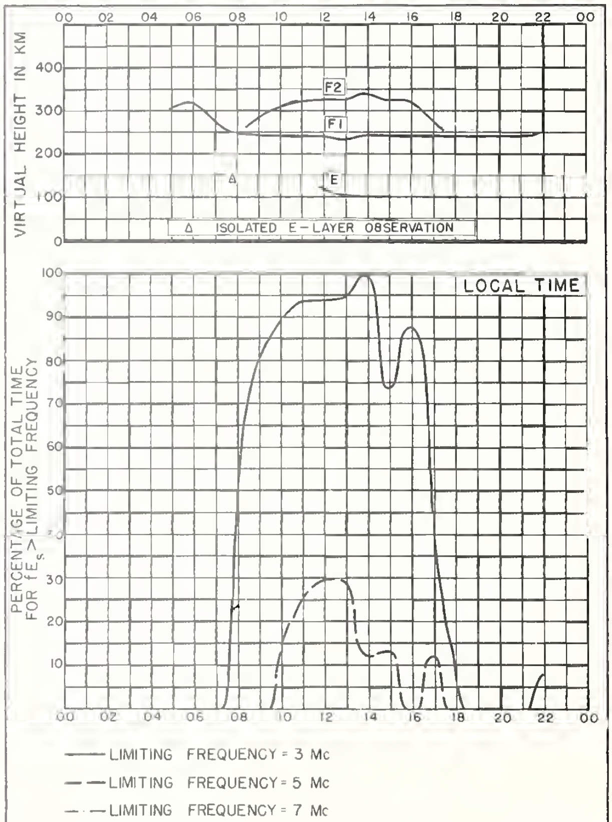

Fig. 63. NANKING, CHINA FEBRUARY 1948

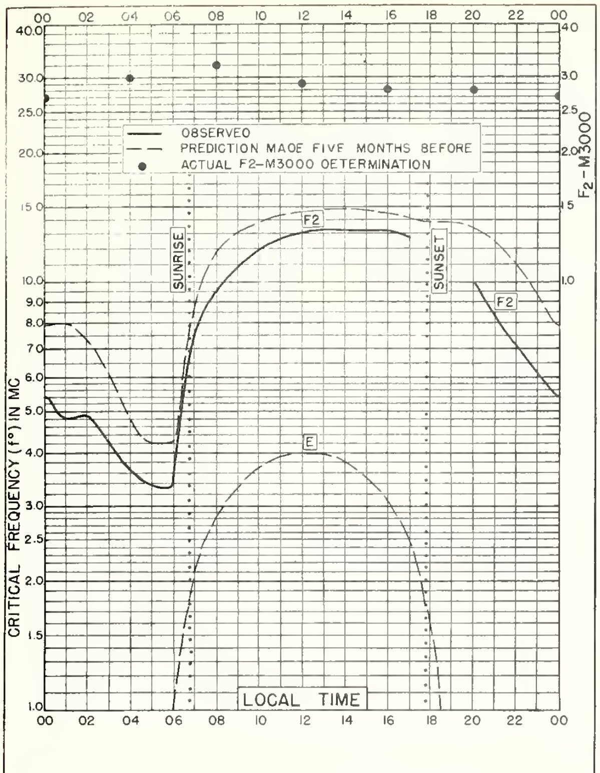

Fig. 64. DELHI, INDIA
28.6°N, 77.1°E FEBRUARY 1948

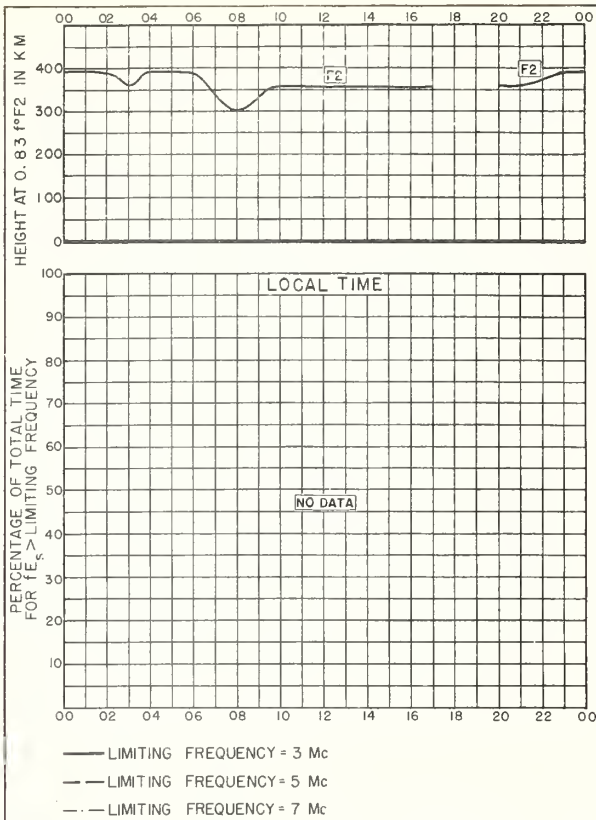

Fig. 65. DELHI, INDIA FEBRUARY 1948

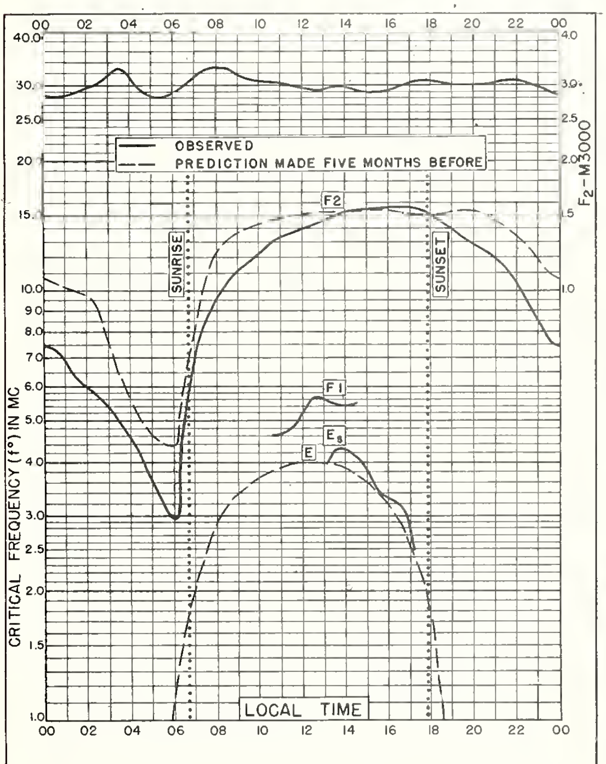

Fig. 66. OKINAWA I.
26.3°N, 127.7°E FEBRUARY 1948

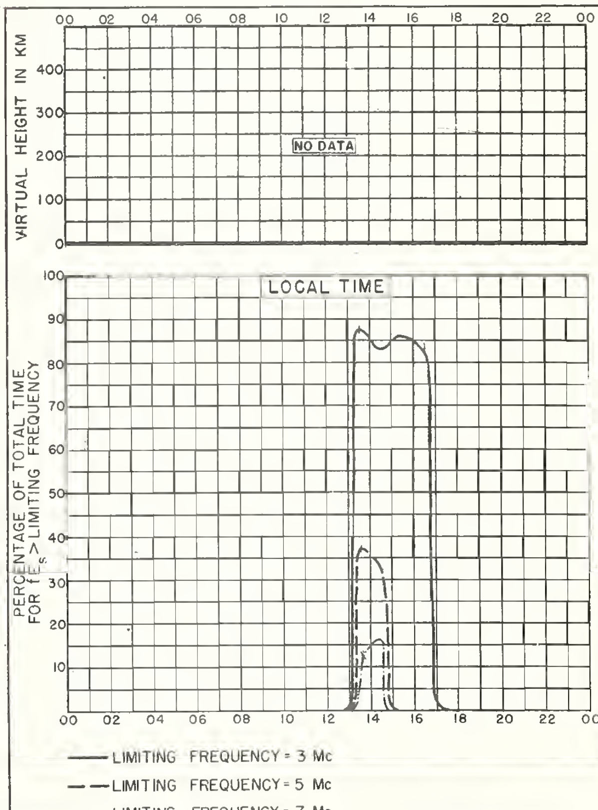

Fig. 67. OKINAWA I. FEBRUARY 1948

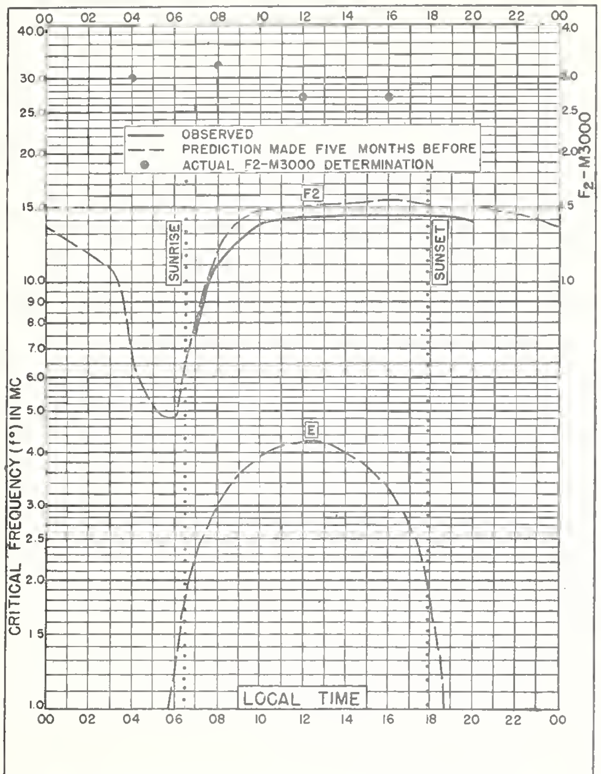

Fig. 68. BOMBAY, INDIA
19.0°N, 73.0°E FEBRUARY 1948

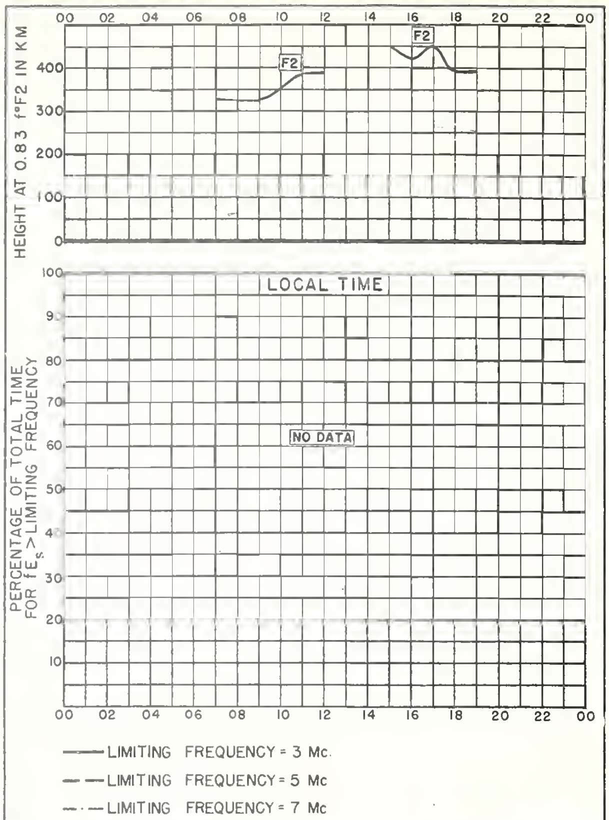

Fig. 69. BOMBAY, INDIA FEBRUARY 1948

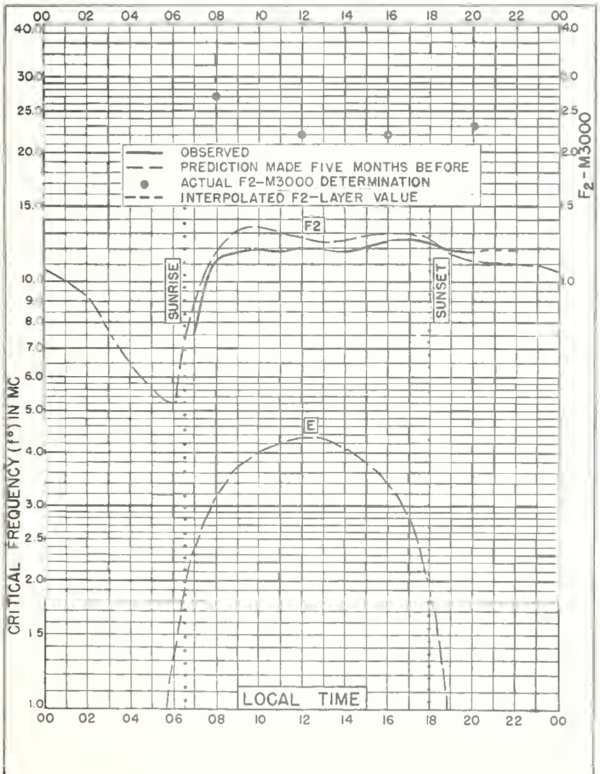

Fig. 70. MADRAS, INDIA
13.0°N, 80.2°E FEBRUARY 1948

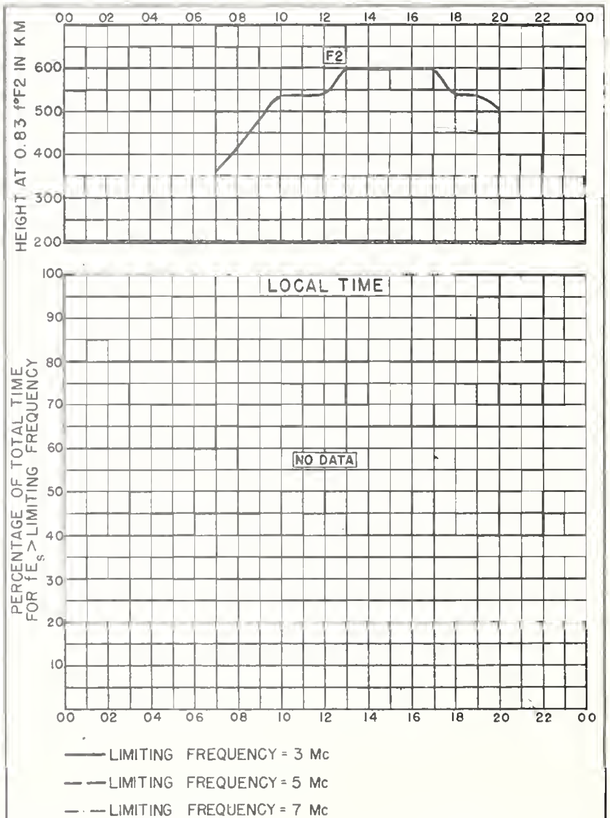

Fig. 71. MADRAS, INDIA FEBRUARY 1948

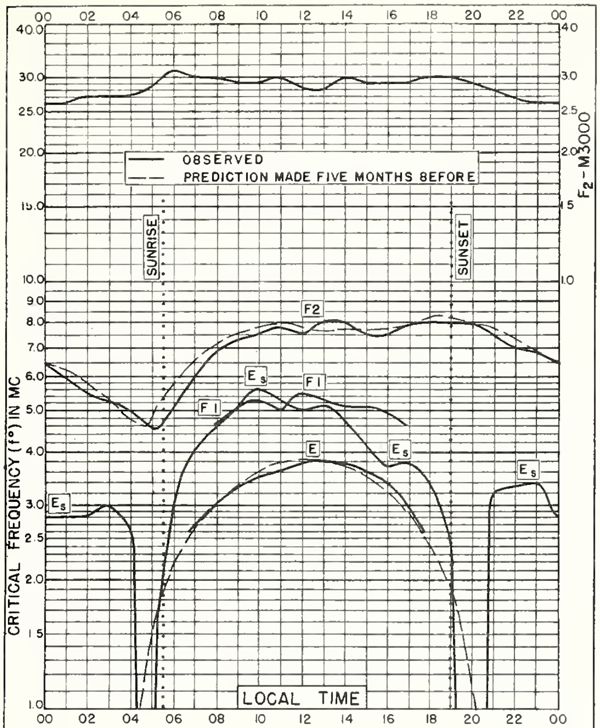

Fig. 72. HOBART, TASMANIA
42.8°S, 147.4°E FEBRUARY 1948

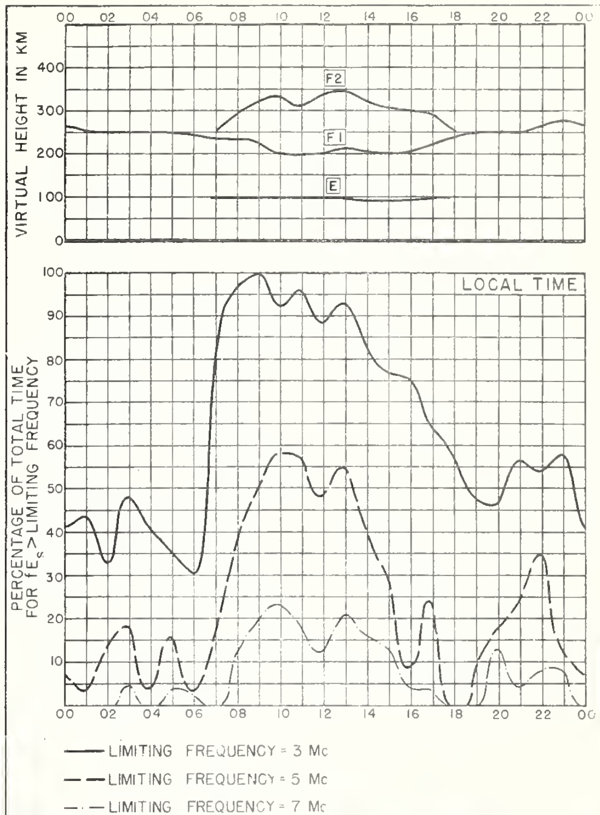

Fig. 73. HOBART, TASMANIA FEBRUARY 1948

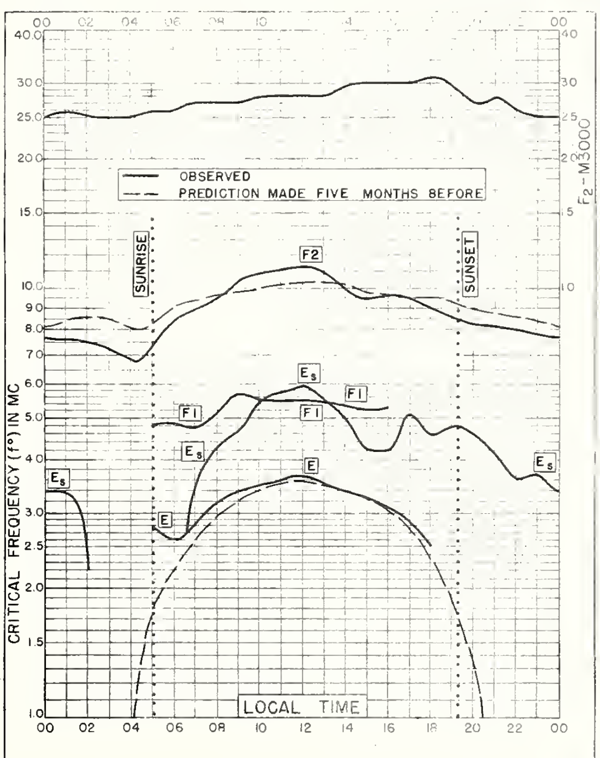

Fig. 74. FALKLAND IS.
51.7°S, 57.8°W FEBRUARY 1948

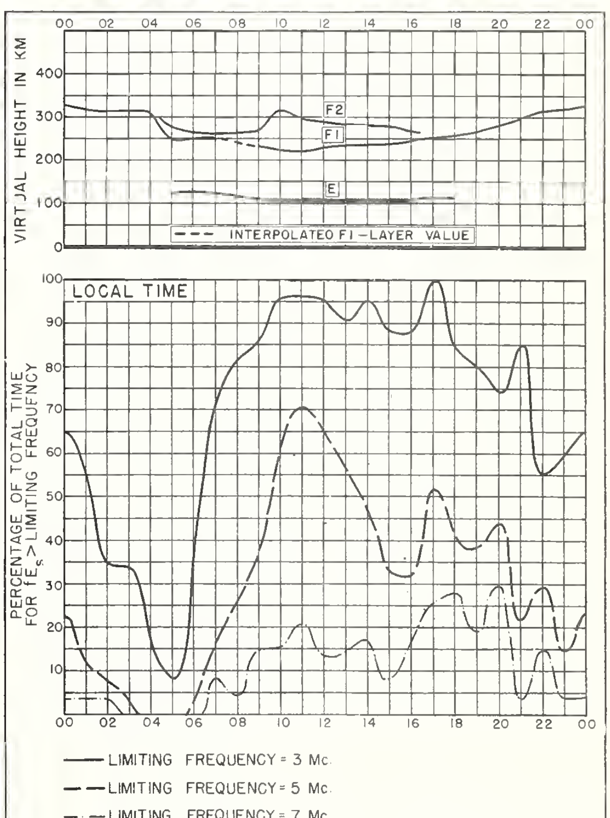

Fig. 75. FALKLAND IS. FEBRUARY 1948

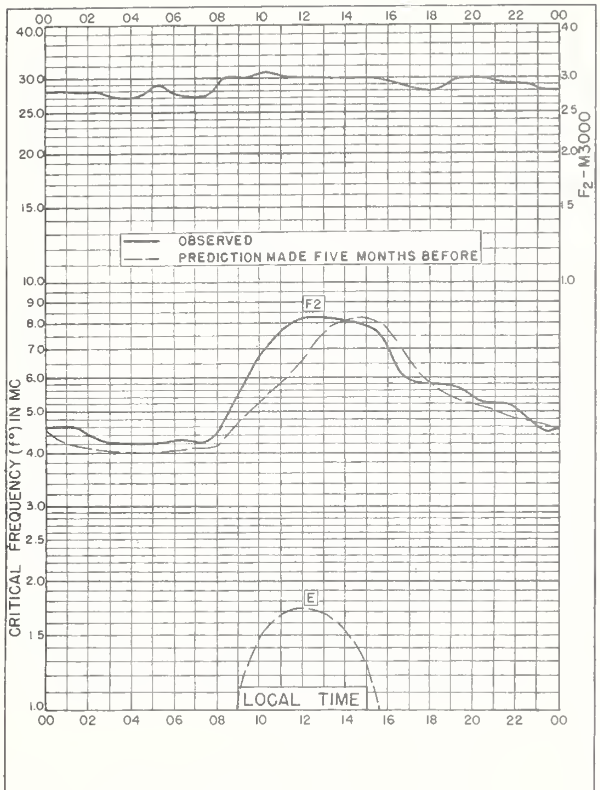

Fig. 76. CLYDE, BAFFIN I.
70.5°N, 68.6°W JANUARY 1948

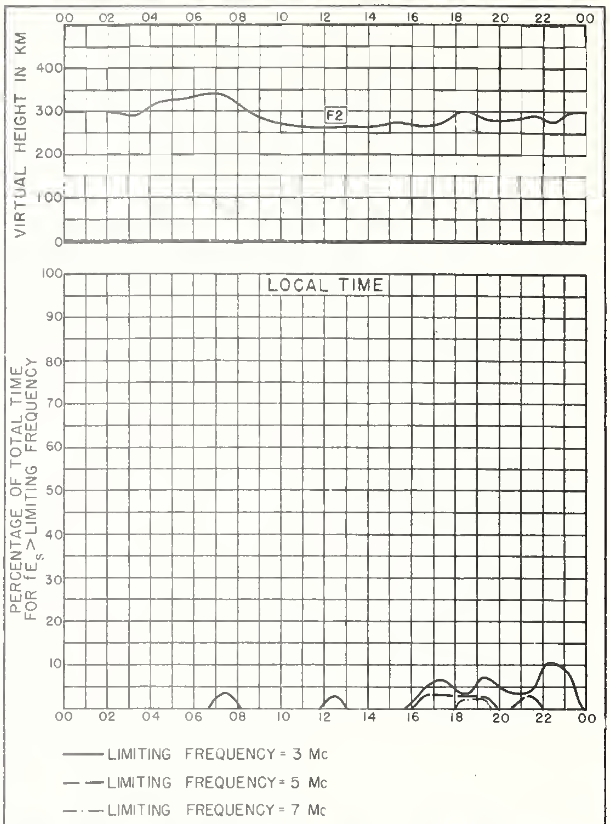

Fig. 77. CLYDE, BAFFIN I. JANUARY 1948

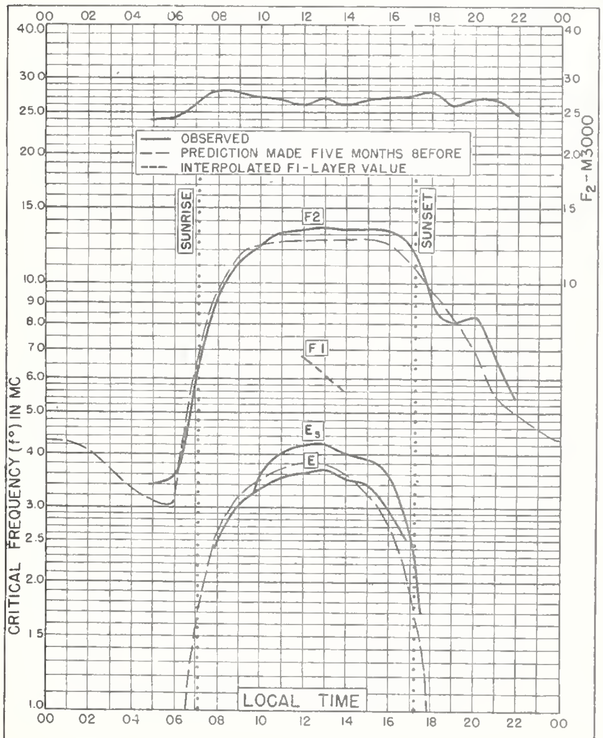

Fig. 78. NANKING, CHINA
32.1°N, 119.0°E JANUARY 1948

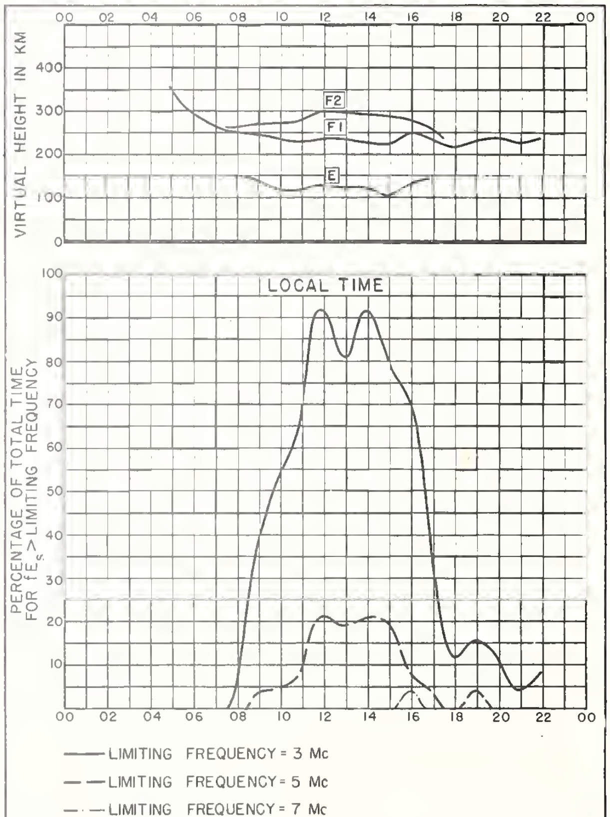

Fig. 79. NANKING, CHINA JANUARY 1948

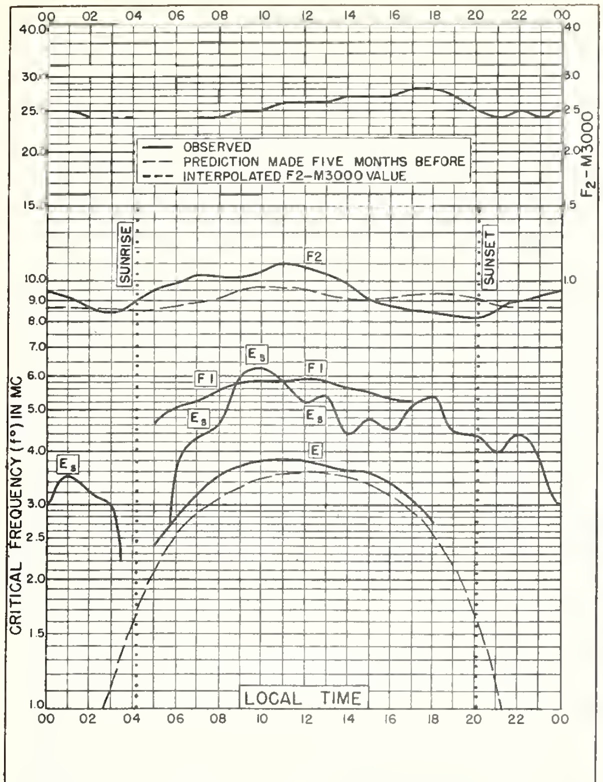

Fig. 80. FALKLAND IS. 51.7°S, 57.8°W JANUARY 1948

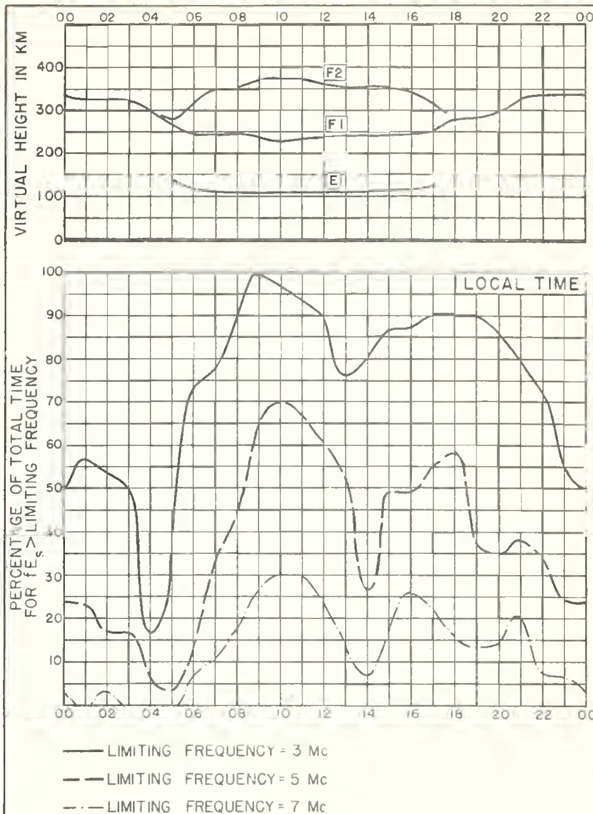

Fig. 81. FALKLAND IS. JANUARY 1948

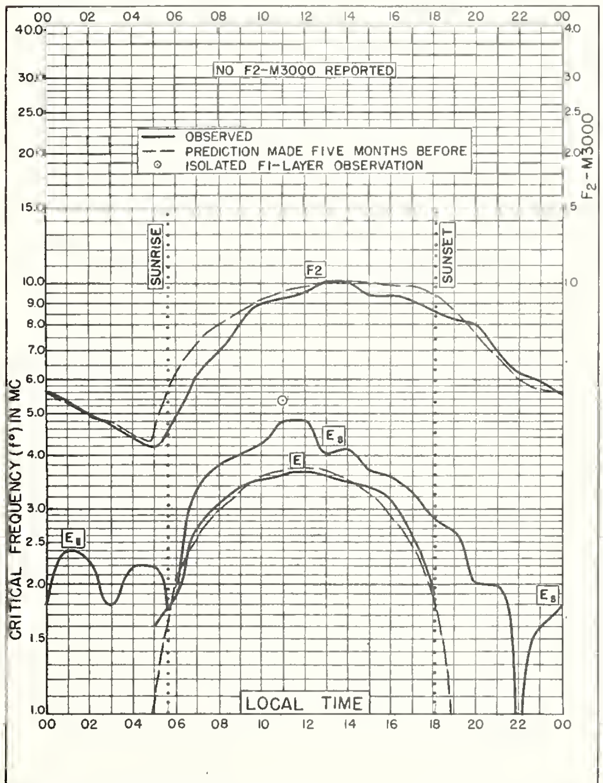

Fig. 82. FRIBOURG, GERMANY 48.1°N, 7.8°E SEPTEMBER 1947

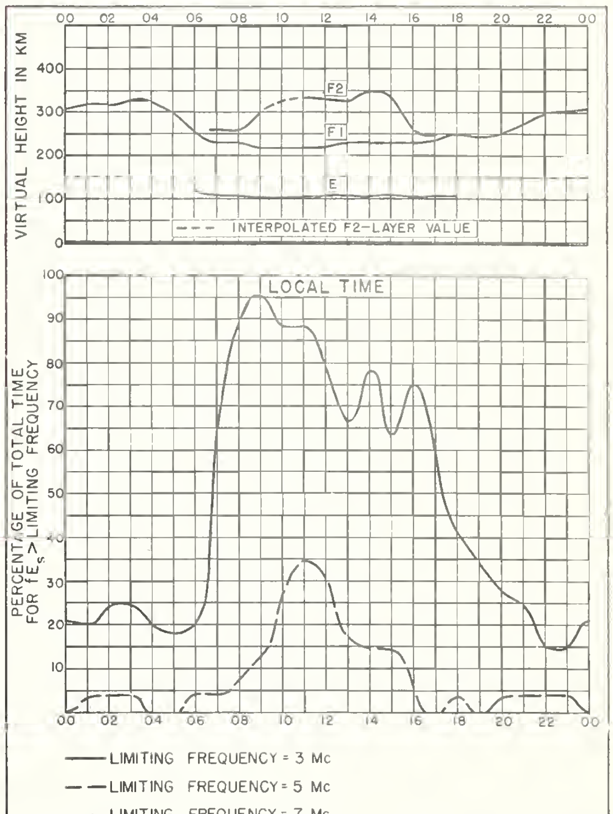

Fig. 83. FRIBOURG, GERMANY SEPTEMBER 1947

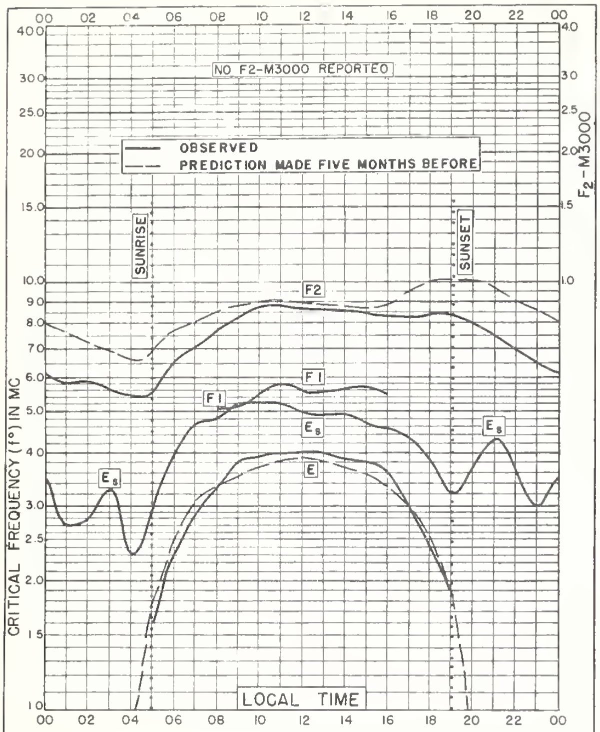

Fig. 84. FRIBOURG, GERMANY
48.1°N, 7.8°E AUGUST 1947

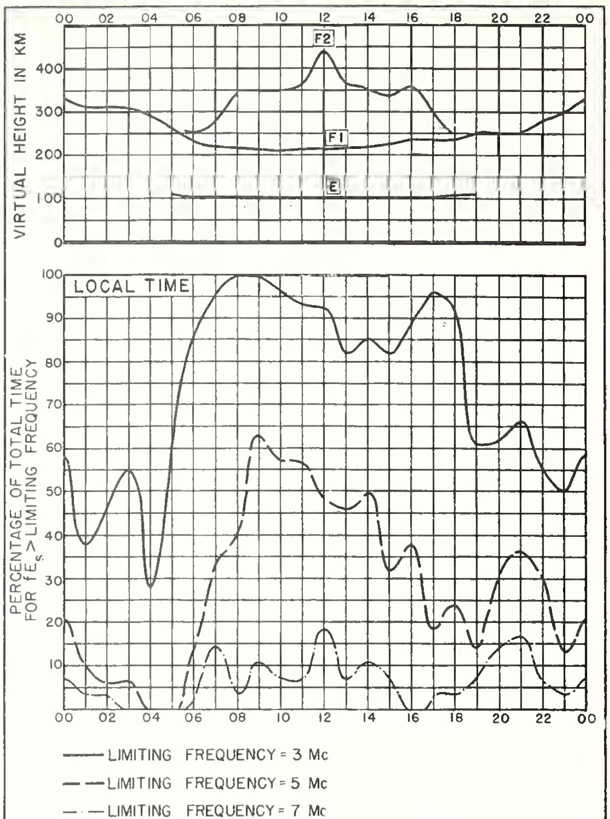

Fig. 85. FRIBOURG, GERMANY AUGUST 1947

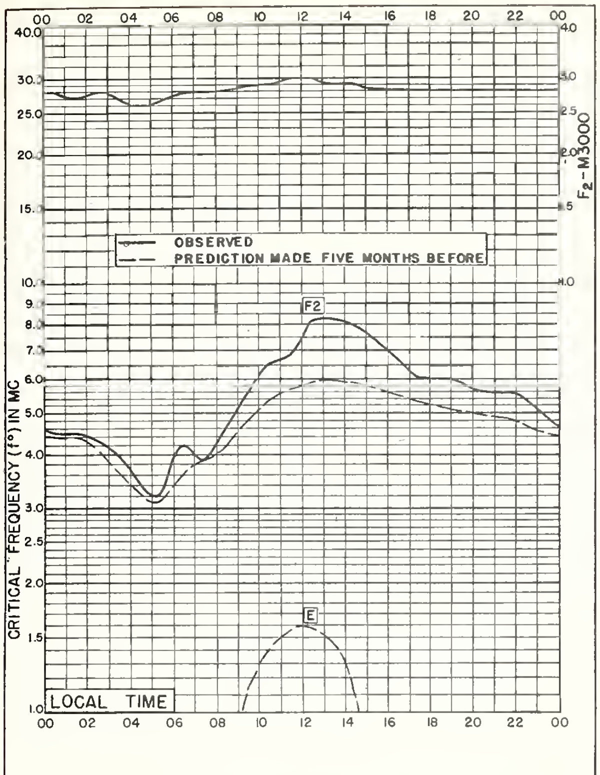

Fig. 86. CLYDE, BAFFIN I.
70.5°N, 68.6°W DECEMBER 1947

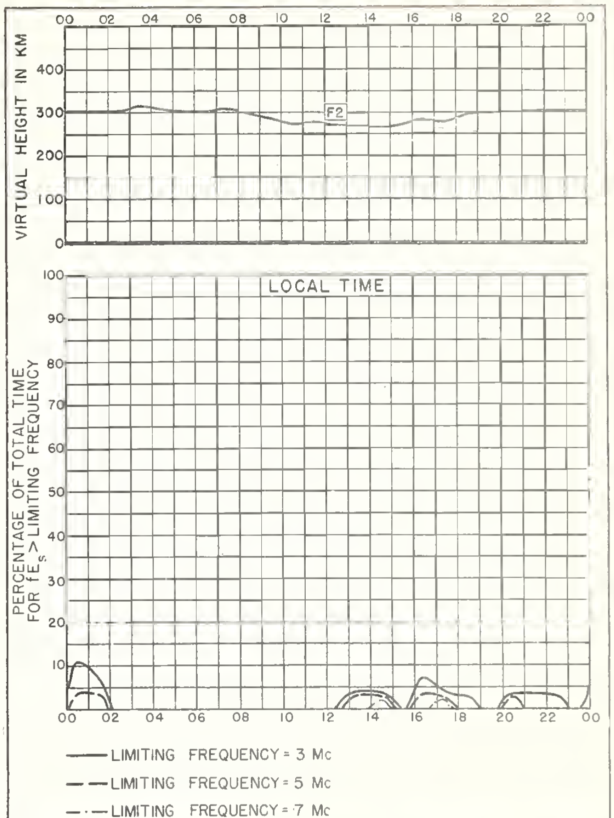

Fig. 87. CLYDE, BAFFIN I. DECEMBER 1947

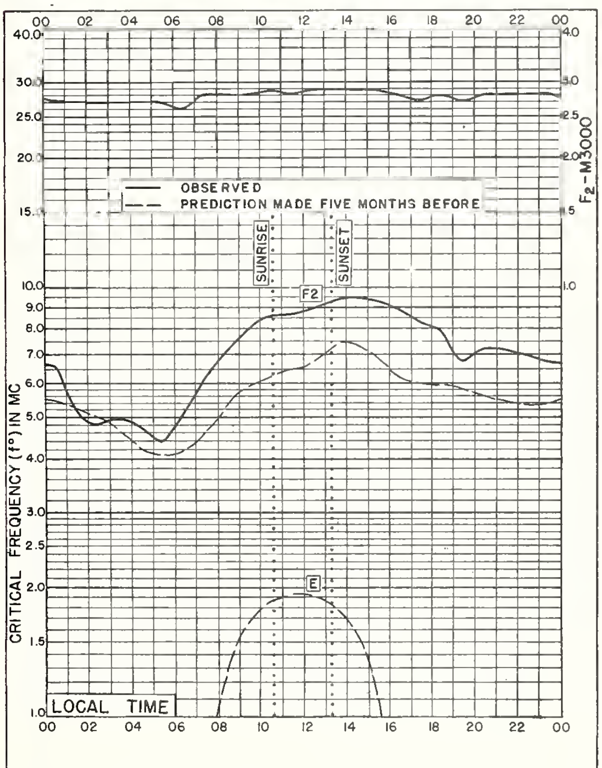

Fig. 88. CLYDE, BAFFIN I.
70.5°N, 68.6°W NOVEMBER 1947

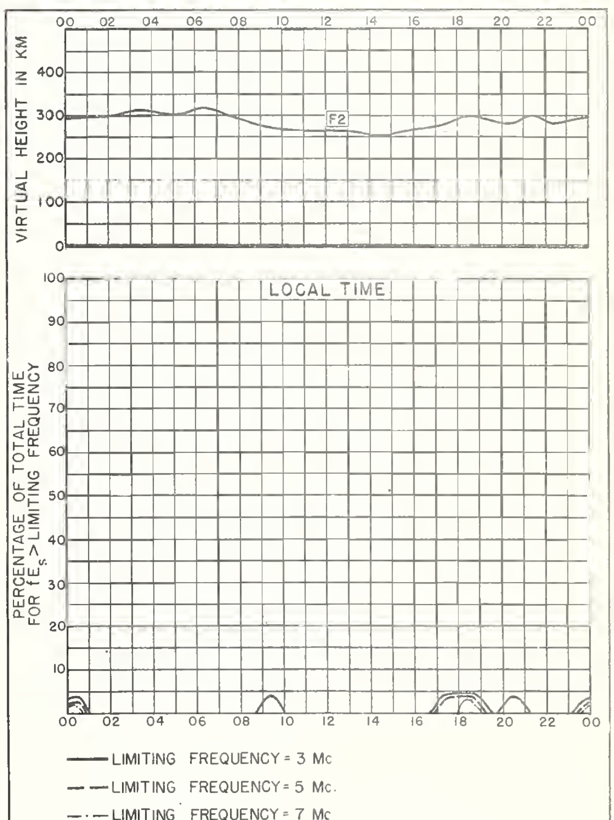

Fig. 89. CLYDE, BAFFIN I. NOVEMBER 1947

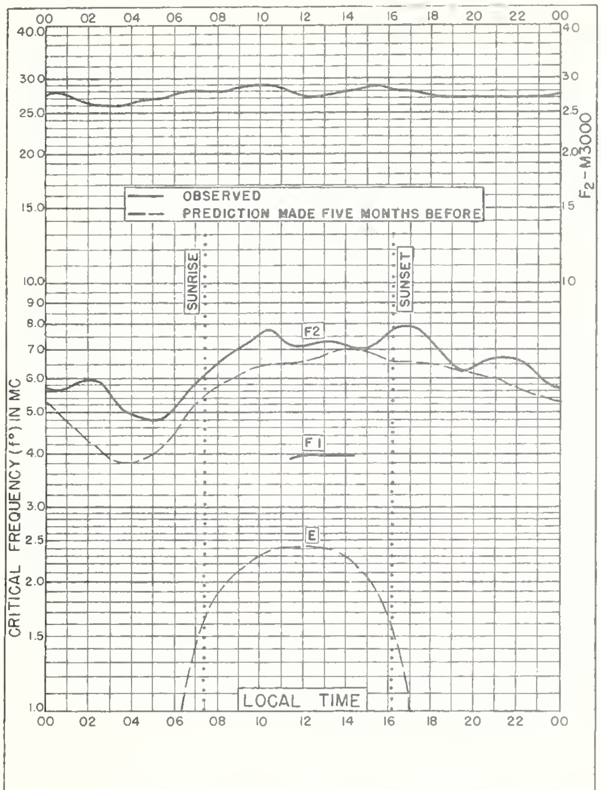

Fig. 90. CLYDE, BAFFIN I.
70.5°N, 68.6°W OCTOBER 1947

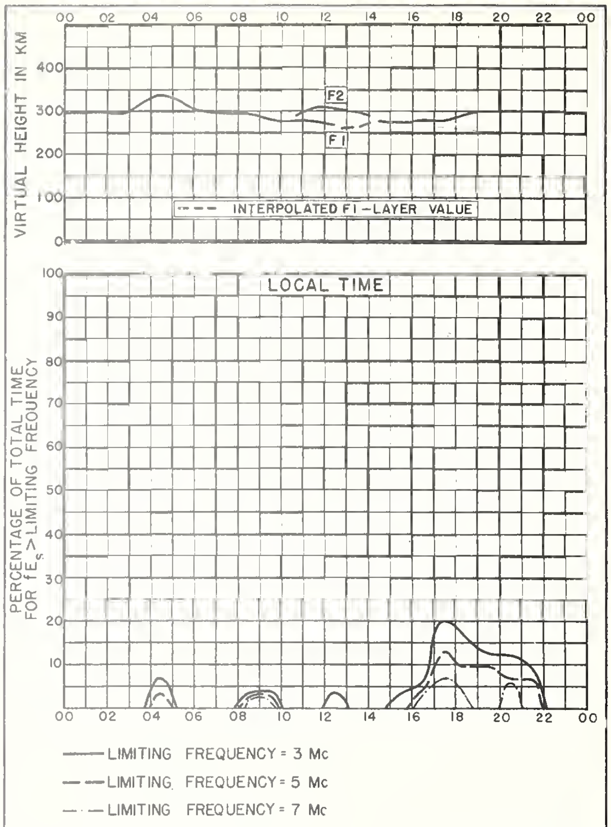

Fig. 91. CLYDE, BAFFIN I. OCTOBER 1947

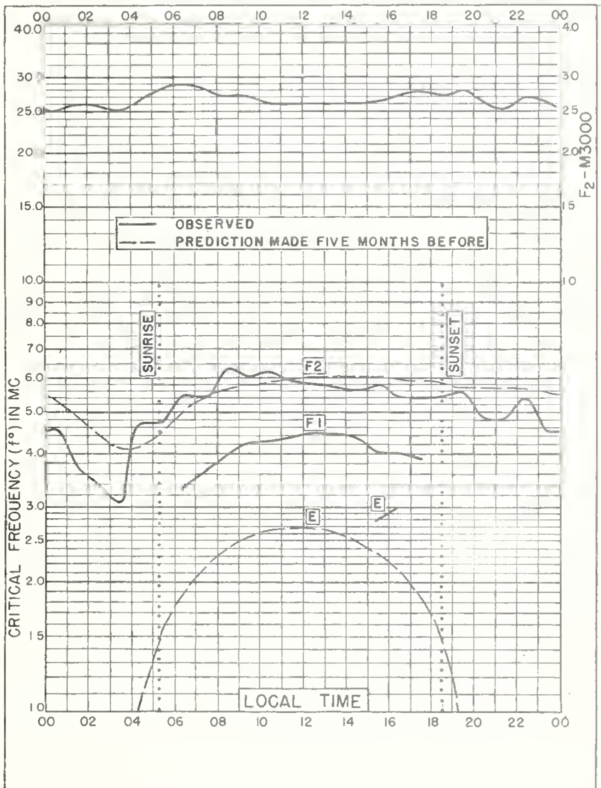

Fig. 92. CLYDE, BAFFIN I.
70.5°N, 68.6°W SEPTEMBER 1947

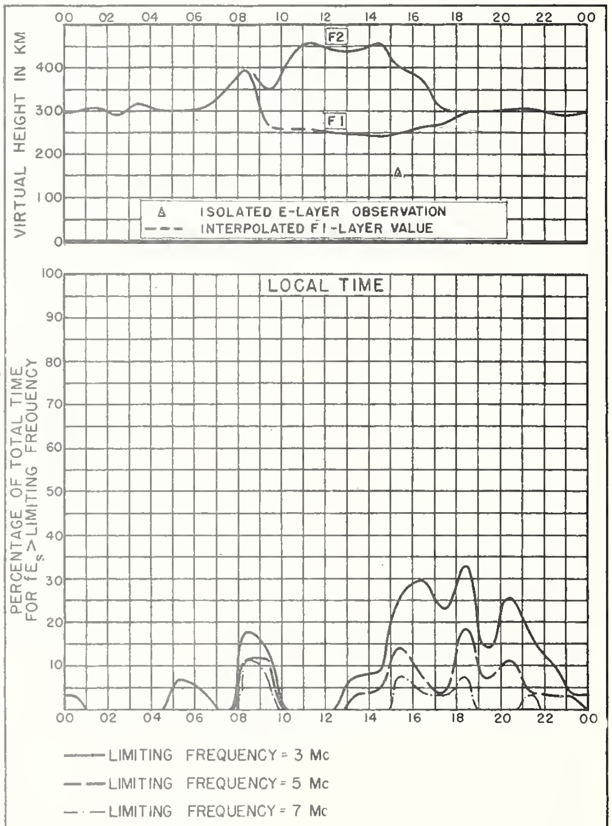

Fig. 93. CLYDE, BAFFIN I. SEPTEMBER 1947

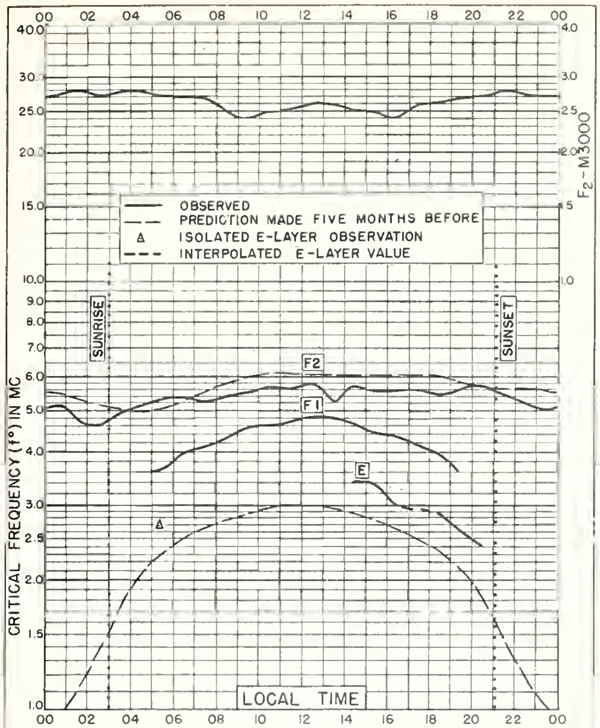

Fig. 94. CLYDE, BAFFIN I.
70.5°N, 68.6°W AUGUST 1947

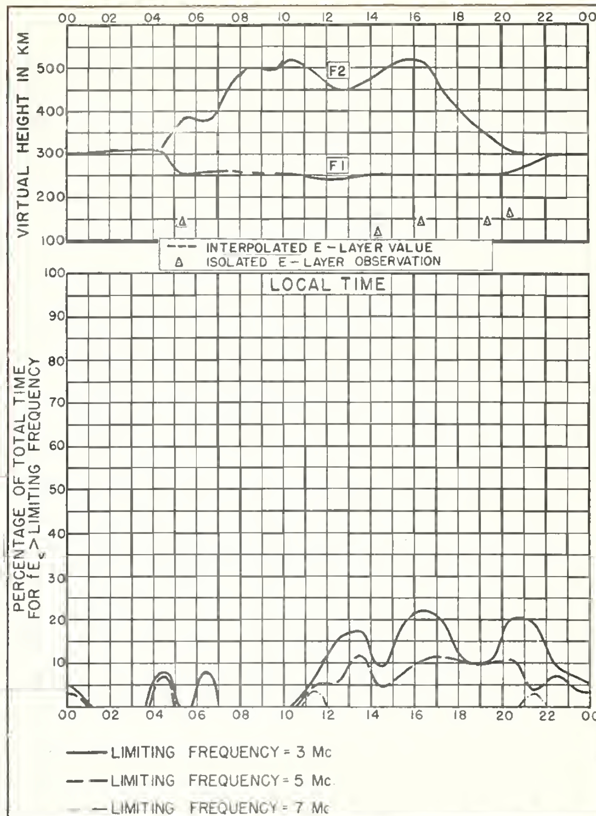

Fig. 95. CLYDE, BAFFIN I. AUGUST 1947

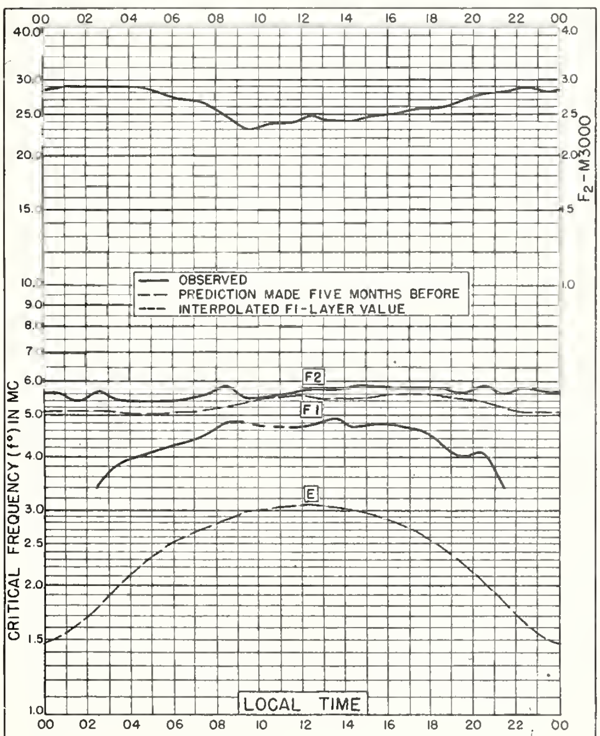

Fig. 96. CLYDE, BAFFIN I.
70.5°N, 68.6°W JULY 1947

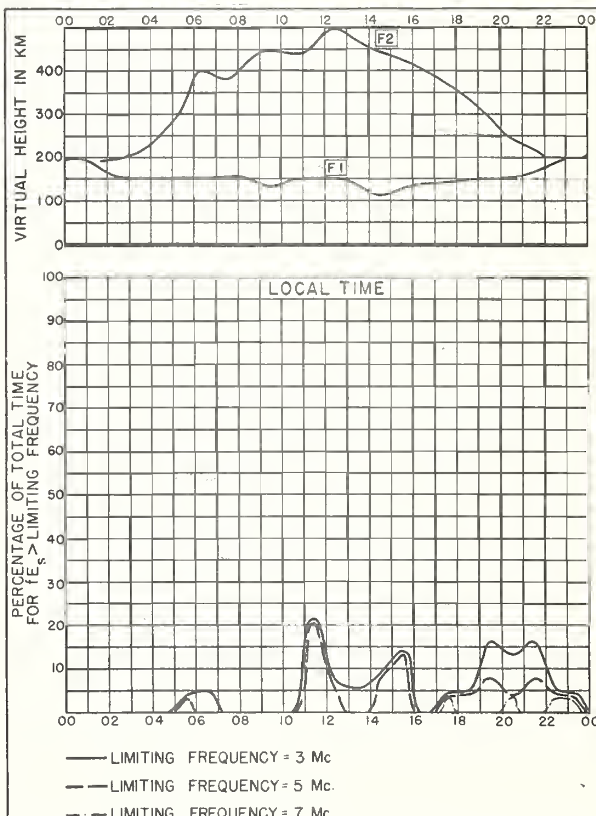

Fig. 97. CLYDE, BAFFIN I. JULY 1947

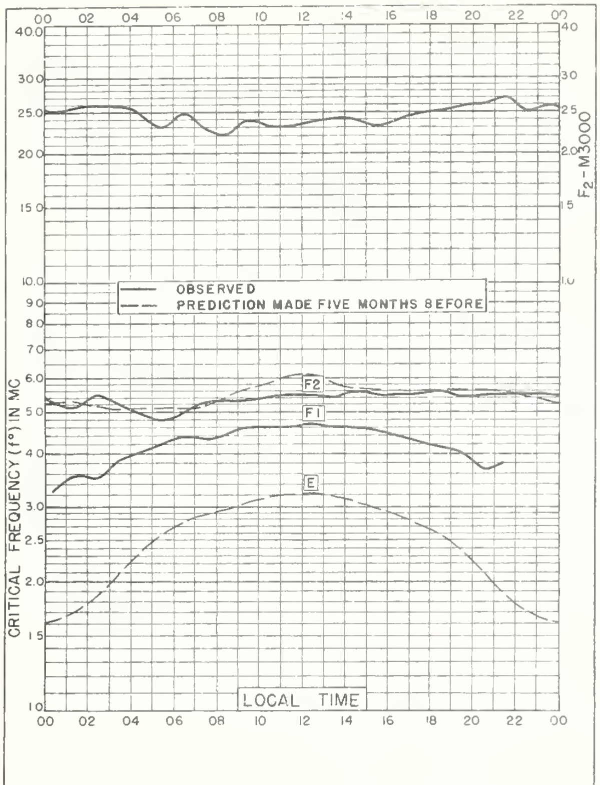

Fig. 98. CLYDE, BAFFIN I.
70.5°N, 68.6°W JUNE 1947

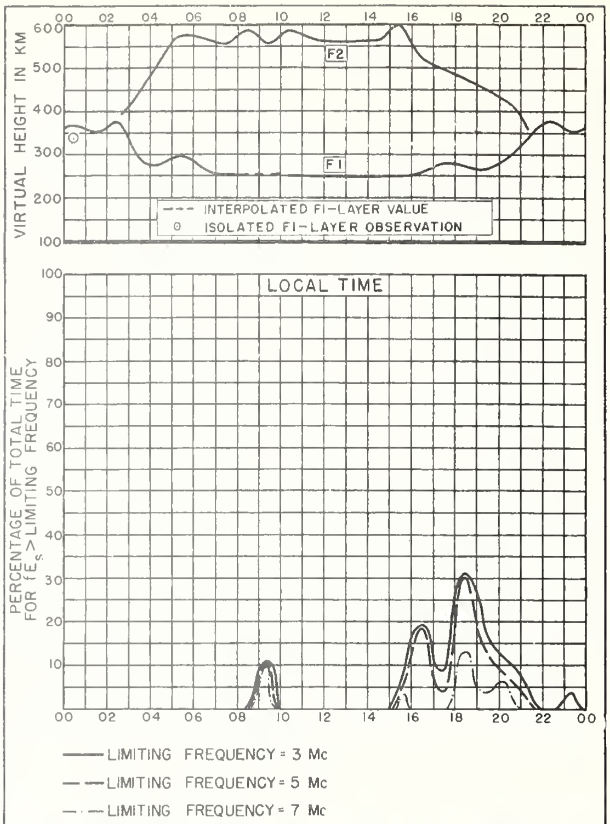

Fig. 99. CLYDE, BAFFIN I. JUNE 1947

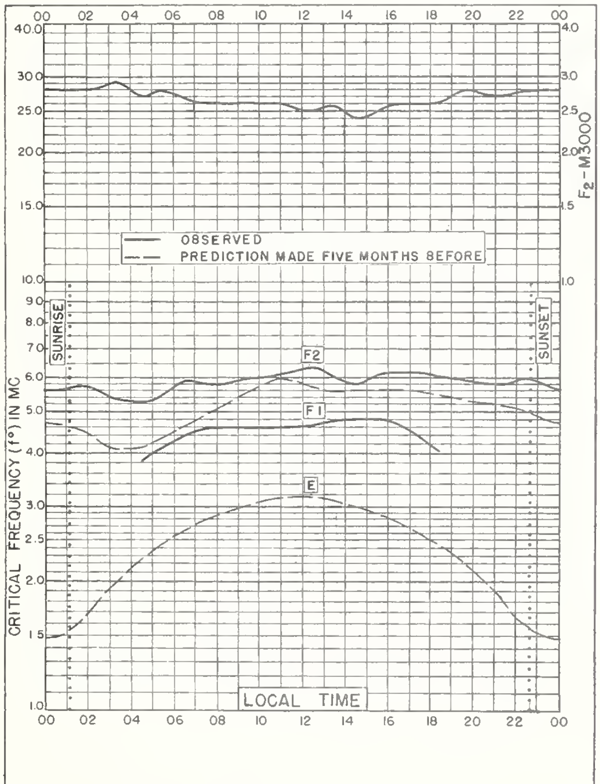

Fig. 100. CLYDE, BAFFIN I.
70.5°N, 68.6°W MAY 1947

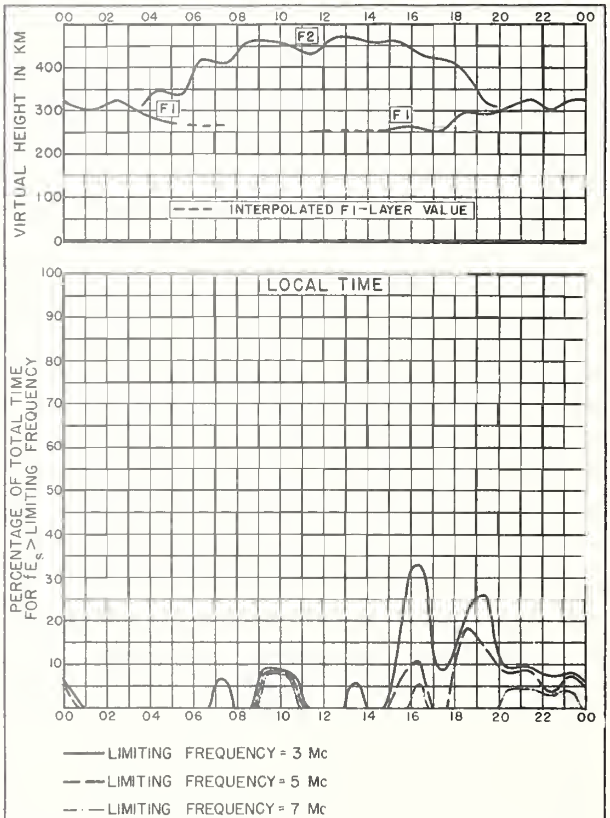

Fig. 101. CLYDE, BAFFIN I. MAY 1947

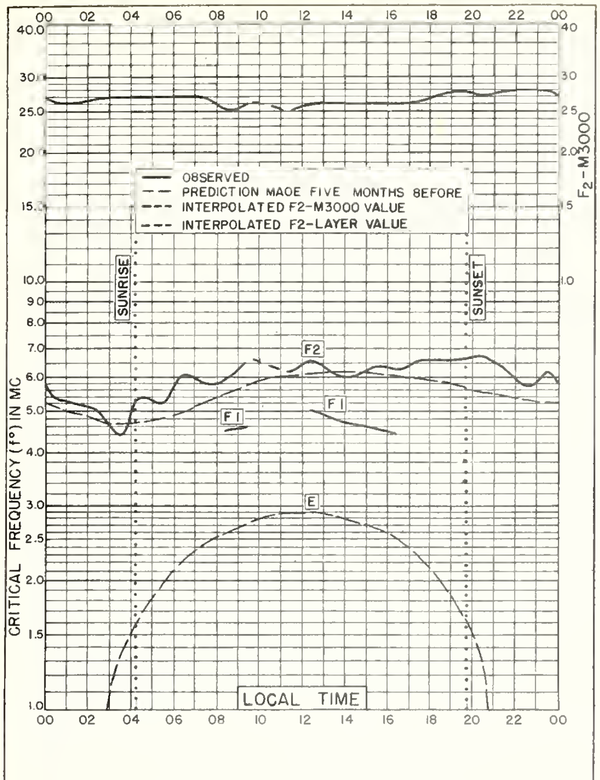

Fig. 102. CLYDE, BAFFIN I.
70.5°N, 68. 6°W APRIL 1947

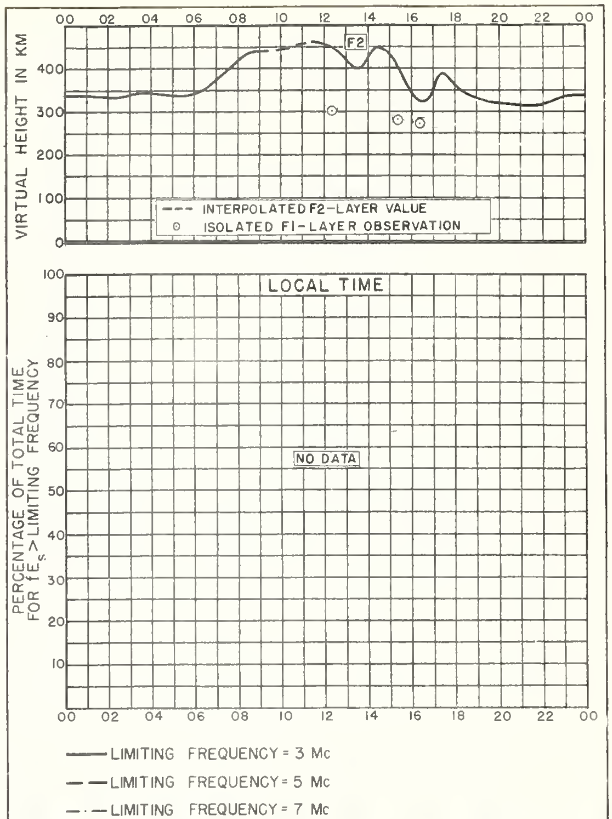

Fig. 103. CLYDE, BAFFIN I. APRIL 1947

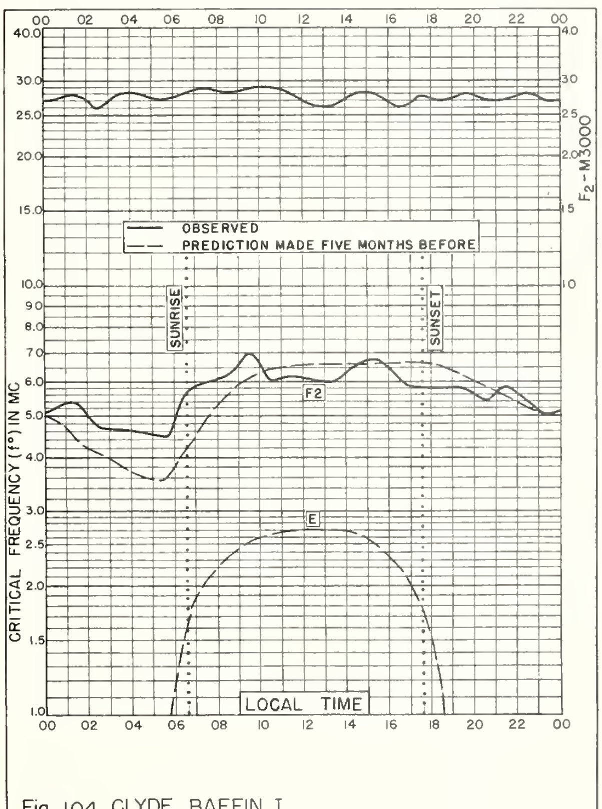

Fig. 104. CLYDE, BAFFIN I.
70.5°N, 68. 6°W MARCH 1947

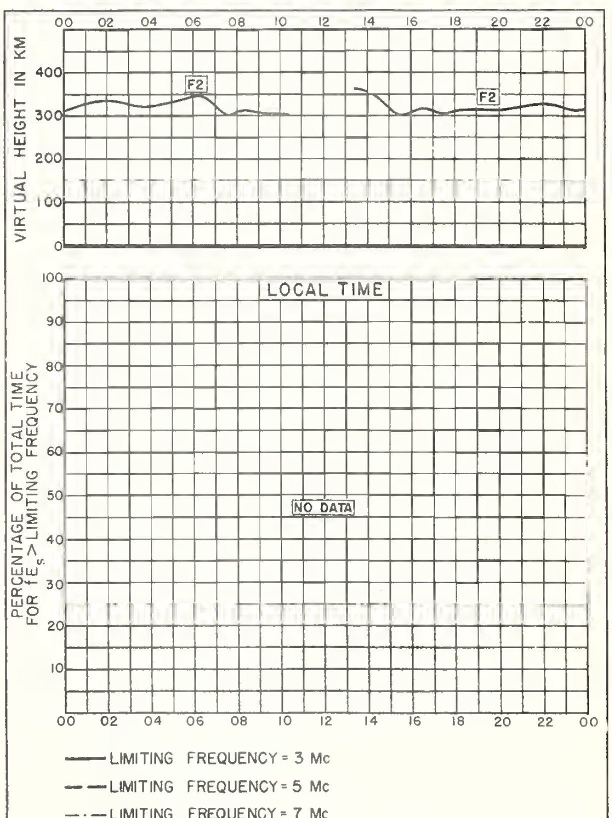

Fig. 105. CLYDE, BAFFIN I. MARCH 1947

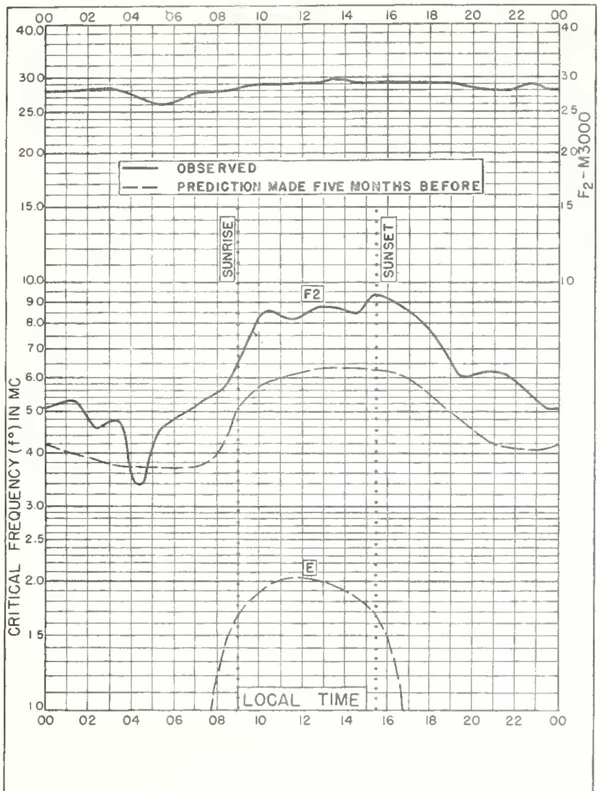

Fig. 106. CLYDE, BAFFIN I.
70.5°N, 68.6°W FEBRUARY 1947

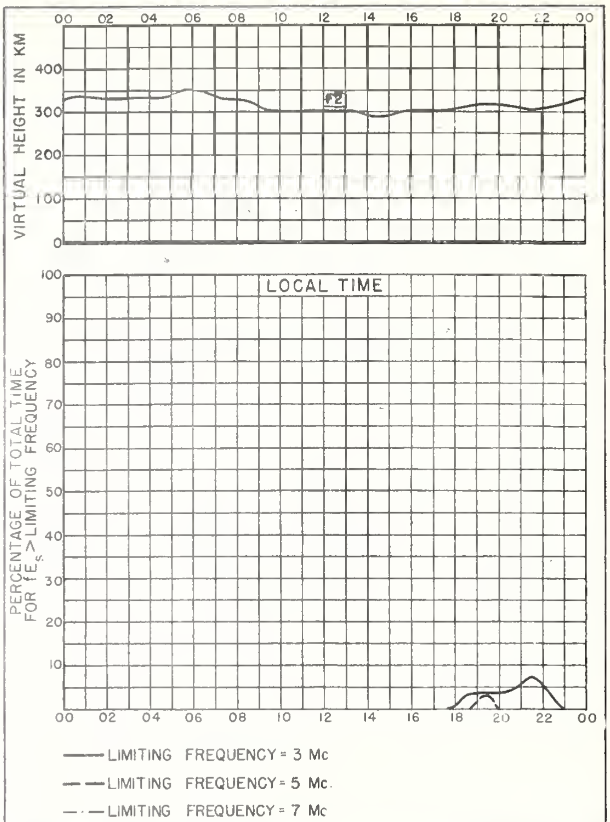

Fig. 107. CLYDE, BAFFIN I. FEBRUARY 1947

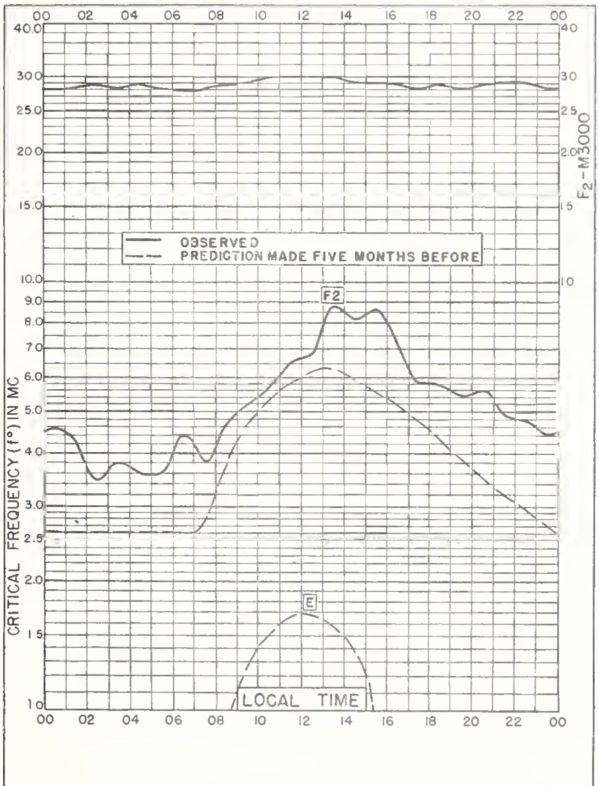

Fig. 108. CLYDE, BAFFIN I.
70.5°N, 68.6°W JANUARY 1947

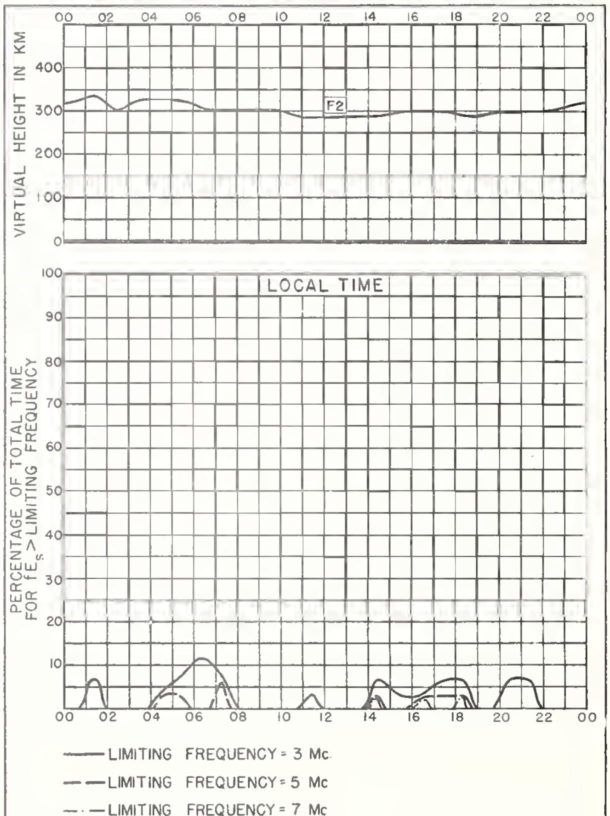

Fig. 109. CLYDE, BAFFIN I. JANUARY 1947

Index of Tables and Graphs of Ionospheric Data

in CRPL-F47

Index (CRPL-F47, contd.)

CRPL and IRPL Reports

Daily:
Radio disturbance warnings, every half hour from broadcast station WWV of the National Bureau of Standards.
Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

Weekly:
CRPL–J. Radio Propagation Forecast (of days most likely to be disturbed during following month).

Semimonthly:
CRPL–Ja. Semimonthly Frequency Revision Factors for CRPL Basic Radio Propagation Prediction Reports.

Monthly:
CRPL–D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11–499–, monthly supplements to TM 11–499; Dept. of the Navy, DNC–13–1 ( ), monthly supplements to DNC–13–1.)
CRPL–F. Ionospheric Data.

Quarterly:
*IRPL–A. Recommended Frequency Bands for Ships and Aircraft in the Atlantic and Pacific.
*IRPL–H. Frequency Guide for Operating Personnel.

Nonscheduled reports:
CRPL–1–1. Prediction of Annual Sunspot Numbers.
CRPL–1–2, 3–1. High Frequency Radio Propagation Charts for Sunspot Minimum and Sunspot Maximum.
CRPL–1–3. Some Methods for General Prediction of Sudden Ionospheric Disturbances.
CRPL–1–4. Observations of the Solar Corona at Climax, 1944–46.
CRPL–1–5. Comparison of Predictions of Radio Noise with Observed Noise Levels.
CRPL–1–6. The Variability of Sky-Wave Field Intensities at Medium and High Frequencies.
CRPL–7–1. Preliminary Instructions for Obtaining and Reducing Manual Ionospheric Records.
NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions.

Reports issued in past:
IRPL–C61. Report of the International Radio Propagation Conference, 17 April to 5 May 1944.
IRPL–G1 through G12. Correlation of D. F. Errors With Ionospheric Conditions.
IRPL–R. Nonscheduled reports:
- R4. Methods Used by IRPL for the Prediction of Ionosphere Characteristics and Maximum Usable Frequencies.
- R5. Criteria for Ionospheric Storminess.
- R6. Experimental Studies of Ionospheric Propagation as Applied to the Loran System.
- R7. Second Report on Experimental Studies of Ionospheric Propagation as Applied to the Loran System.
- R9. An Automatic Instantaneous Indicator of Skip Distance and MUF.
- R10. A Proposal for the Use of Rockets for the Study of the Ionosphere.
- R11. A Nomographic Method for Both Prediction and Observation Correlation of Ionosphere Characteristics.
- R12. Short Time Variations in Ionospheric Characteristics.
- R14. A Graphical Method for Calculating Ground Reflection Coefficients.
- R15. Predicted Limits for $F2$-layer Radio Transmission Throughout the Solar Cycle.
- R16. Predicted $F2$-layer Frequencies Throughout the Solar Cycle, for Summer, Winter, and Equinox Season.
- R17. Japanese Ionospheric Data—1943.
- R18. Comparison of Geomagnetic Records and North Atlantic Radio Propagation Quality Figures—October 1943 Through May 1945.
- R19. Nomographic Predictions of $F2$-layer Frequencies Throughout the Solar Cycle, for June.
- R20. Nomographic Predictions of $F2$-layer Frequencies Throughout the Solar Cycle, for September.
- R21. Notes on the Preparation of Skip-Distance and MUF Charts for Use by Direction-Finder Stations. (For distances out to 4000 km.)
- R22. Nomographic Predictions of $F2$-layer Frequencies Throughout the Solar Cycle, for December.
- R23. Solar-Cycle Data for Correlation with Radio Propagation Phenomena.
- R24. Relations Between Band Width, Pulse Shape and Usefulness of Pulses in the Loran System.
- R25. The Prediction of Solar Activity as a Basis for the Prediction of Radio Propagation Phenomena.
- R26. The Ionosphere as a Measure of Solar Activity.
- R27. Relationships Between Radio Propagation Disturbance and Central Meridian Passage of Sunspots Grouped by Distance From Center of Disc.
- R28. Nomographic Predictions of $F2$-layer Frequencies Throughout the Solar Cycle, for January.
- R30. Disturbance Rating in Values of IRPL Quality-Figure Scale From A. T. & T. Co. Transmission Disturbance Reports to Replace T. D. Figures as Reported.
- R31. North Atlantic Radio Propagation Disturbances, October 1943 Through October 1945.
- R32. Nomographic Predictions of $F2$-layer Frequencies Throughout the Solar Cycle, for February.
- R33. Ionospheric Data on File at IRPL.
- R34. The Interpretation of Recorded Values of fEs.
- R35. Comparison of Percentage of Total Time of Second-Multiple Es Reflections and That of fEs in Excess of 3 Mc.

IRPL–T. Reports on tropospheric propagation:
- T1. Radar operation and weather. (Superseded by JANP 101.)
- T2. Radar coverage and weather. (Superseded by JANP 102.)

CRPL–T3. Tropospheric Propagation and Radio-Meteorology. (Reissue of Columbia Wave Propagation Group WPG–5.)

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